The City of

Boynton Beach

City Commission Agenda

Tuesday, November 7, 2017, 4:00 PM

Commission Chambers
100 E. Boynton Beach Blvd., Boynton Beach, FL 33435
Regular City Commission

Boynton Beach City Commission

Mayor Steven B. Grant (At Large)
Vice Mayor Justin Katz (District I)
Commissioner Mack McCray (District II)
Commissioner Christina L. Romelus (District III)
Commissioner Joe Casello (District IV)

Lori LaVerriere, City Manager
James Cherof, City Attorney
Judith A. Pyle, City Clerk

MISSION
To create a sustainable community by providing exceptional municipal services, in a financially responsible manner.

America's Gateway to the Gulfstream

www.boynton-beach.org

WELCOME
Thank you for attending the City Commission Meeting

GENERAL RULES AND PROCEDURES FOR PUBLIC PARTICIPATION AT CITY OF BOYNTON BEACH COMMISSION MEETINGS

THE AGENDA:
There is an official agenda for every meeting of the City Commissioners, which determines the order of business conducted at the meeting. The City Commission will not take action upon any matter, proposal, or item of business, which is not listed upon the official agenda, unless a majority of the Commission has first consented to the presentation for consideration and action.

- **Consent Agenda Items:** These are items which the Commission does not need to discuss individually and which are voted on as a group.
- **Regular Agenda Items:** These are items which the Commission will discuss individually in the order listed on the agenda.
- **Voice Vote:** A voice vote by the Commission indicates approval of the agenda item. This can be by either a regular voice vote with "Ayes and Nays" or by a roll call vote.

SPEAKING AT COMMISSION MEETINGS:
The public is encouraged to offer comment to the Commission at their meetings during Public Hearings, Public Audience, and on any regular agenda item, as hereinafter described.

City Commission meetings are business meetings and, as such, the Commission retains the right to impose time limits on the discussion on an issue.

- **Public Hearings:** Any citizen may speak on an official agenda item under the section entitled "Public Hearings."
- **Public Audience:** Any citizen may be heard concerning any matter within the scope of the jurisdiction of the Commission - Time Limit - Three (3) Minutes
- **Regular Agenda Items:** Any citizen may speak on any official agenda item(s) listed on the agenda after a motion has been made and properly seconded, with the exception of Consent Agenda Items that have not been pulled for separate vote, reports, presentations and first reading of Ordinances - Time Limit - Three (3) minutes

ADDRESSING THE COMMISSION:
When addressing the Commission, please step up to either podium and state, for the record, your name and address.

DECORUM:
Any person who disputes the meeting while addressing the Commission may be ordered by the presiding officer to cease further comments and/or to step down from the podium. Failure to discontinue comments or step down when so ordered shall be treated as a continuing disruption of the public meeting. An order by the presiding officer issued to control the decorum of the meeting is binding, unless over-ruled by the majority vote of the Commission members present.

Please turn off all pagers and cellular phones in the City Commission Chambers while the City Commission Meeting is in session.

City Commission meetings are held in the Boynton Beach City Commission Chambers, 100 East Boynton Beach Boulevard, Boynton Beach. All regular meetings are held typically on the first and third Tuesdays of every month, starting at 6:30 p.m. (Please check the Agenda Schedule - some meetings have been moved due to Holidays/Election Day).

1. OPENINGS

A. Call to Order - Mayor Steven B. Grant

Invocation

Pledge of Allegiance to the Flag led by Commissioner Casello

Roll Call

Agenda Approval:

1. Additions, Deletions, Corrections

2. Adoption

2. OTHER

A. Informational items by Members of the City Commission

3. ANNOUNCEMENTS, COMMUNITY AND SPECIAL EVENTS AND PRESENTATIONS

A. Announcement by Jeanne Heavilin about the Greater Boynton Beach Sister Cities' Traveling Sauna event that will be held at Intracoastal Park, 2240 N. Federal Hwy., on Saturday, November 18th. Activities will begin at 10:00 am.

B. Update from Boynton Beach Mental Health Committee by the Chair, Woodrow Hay.

C. Proclaim November 11-19, 2017 as Hunger and Homelessness Awareness Week.

D. Announcement by Recreation & Parks Director Wally Majors about the upcoming Holiday Events.

E. Announce The City of Boynton Beach is hosting a Flood Awareness Workshop on Wednesday, November 8th from 5:30-7:00 pm at the Intracoastal Park Clubhouse. The workshop will answer residents' questions about flooding and City services, the newly revised FEMA flood insurance rate maps will be on display. For more information, contact Rebecca Harvey, Sustainability Coordinator at 742-6494. The flyer is available at the back of the Chambers.

F. Announce that Boynton Beach East Water Treatment Plant project received Envision Award for Sustainable Infrastructure

G. Announce the annual reappointment of those advisory board seats with terms expiring in December 2017. The following boards will have openings:

- Arts Commission,
- Building Board of Adjustments and Appeals,
- Education and Youth Advisory Board,
- Employee Pension Trust Fund Board,
- Library Board,
- Planning and Development Board,
- Recreation and Parks Board and
- Senior Advisory Board.

Information on the boards and applications are available online. Applications can also be taken at the City Clerk's office in City Hall or sent to cityclerk@bbfl.us. All applicants must be registered voters in Palm Beach County.

H. City Hall will be closed on Veterans Day, Friday, November 10, 2017.

I. City Hall will be closed for the Thanksgiving holiday on Thursday, November 23 and Friday, November 24, 2017.

4. PUBLIC AUDIENCE

INDIVIDUAL SPEAKERS WILL BE LIMITED TO 3 MINUTE PRESENTATIONS (at the discretion of the Chair, this 3 minute allowance may need to be adjusted depending on the level of business coming before the City Commission)

5. ADMINISTRATIVE

A. Appoint eligible members of the community to serve in vacant positions on City advisory boards. The following Regular (Reg) and Alternate (Alt) Student (Stu) and Nonvoting Stu (N/V Stu) openings exist:

Arts Commission: 2 Alts
Building Board of Adjustments & Appeals: 2 Regs and 2 Alts
Employee Pension Board: 1 Reg
Library Bd: 1 Alt
Senior Advisory Bd: 1 Alt

B. Discussion as to whether Commission wishes to changes the following Commission Dates in 2018:

Tuesday, September 18, 2018
Tuesday, November 6, 2018

C. Authorize members of the Planning & Development Board to attend a Planning Officials Training Workshop on Friday, November 17, 2017 at the Village of Palm Springs, FL.

6. CONSENT AGENDA

Matters in this section of the Agenda are proposed and recommended by the City Manager for "Consent Agenda" approval of the action indicated in each item, with all of the accompanying material to become a part of the Public Record and subject to staff comments

A. **PROPOSED RESOLUTION NO. R17-100** - Approve and authorize the City Manager (or designee) to apply for the State permit necessary to temporarily close Federal Highway on Saturday, December 2, for the Annual Holiday Parade.

B. **PROPOSED RESOLUTION NO. R17-101** - To support and encourage the efforts to proceed with improvements to the Chain of Lakes, the Ocean to Trails Initiative and development of a boat lift at the C51 Canal S155 control structure.

C. **PROPOSED RESOLUTION NO. R17-102** - Assess the cost of nuisance abatement on properties within the City of Boynton Beach.

D. **PROPOSED RESOLUTION NO. R17-103** - Approve Amendment to Agreement for Special Magistrate Services to increase the Special Magistrate's hourly rate.

E. **PROPOSED RESOLUTION NO. R17-104** - Approve and authorize the City Manager to sign a proposal/contract with M&M Asphalt Maintenance Inc., d/b/a All County Paving of Delray Beach, FL, in the amount of $76,815.61, plus a 10% contingency in the amount of $7,700 for a total cost of $84,515.61 for the purpose of restriping several of the City's streets utilizing the City of West Palm Beach's Paving Contract #16393 pricing, terms and conditions.

F. **PROPOSED RESOLUTION NO. R17-105** - Approve and authorize the City Manager to sign an Agreement with Ballard Partners, Inc. of Tallahassee, FL for RFP No. 071-1210-17/IT -

Appropriations Lobbyist Services for the City of Boynton Beach in the estimated annual amount of $60,000 plus expenses, and authorize the City Manager to renew the Agreement for three (3) additional one-year renewal periods.

G. **PROPOSED RESOLUTION NO. R17-106** - Authorize the City Manager to sign and apply for a grant from the Solid Waste Authority for a Rolling Green Gate Project.

H. **PROPOSED RESOLUTION NO. R17-107** - Approve and authorize the Mayor to sign an agreement with the City of Lake Worth and AL Hypoluxo, LLC to provide wastewater service to a parcel on the Northeast corner of Hypoluxo Road and High Ridge Road.

I. Approve utilizing the State of Florida contract no. 41120000-15-ACS with Fisher Scientific Company, LLC for the purchase of consumable laboratory supplies for the Utilities Department, for a not-to-exceed amount of $40,000. The City of Boynton Beach's (City) purchasing policies allows for the utilization of State of Florida contracts.

J. Approve the ranking of the proposers as determined by the Evaluation Committee and authorize staff to conduct negotiations with the first ranked firm Ric-Man International, Inc. and establish contracts in accordance with Request for Qualifications (RFQ) No. 037-2821-17/TP for Central Seacrest Corridor Utility Improvements Phase II and as per Florida Statute 287.055, Consultants' Competitive Negotiation Act (CCNA). At the completion of each phase of the negotiations, the Contracts will be brought back to the Commission for approval.

K. Approve the minutes from the Regular City Commission meetings held on September 19, 2017 and October 17, 2017.

7. BIDS AND PURCHASES OVER $100,000

A. **PROPOSED RESOLUTION NO. R17-108** - Authorize the City Manager to sign an annual service agreement with Motorola, Inc. in the amount of $117,320 for the continued maintenance and repair of the City's radio telecommunications systems as a sole source vendor.

B. **PROPOSED RESOLUTION NO. R17-109** - Approve utilizing National Joint Powers Alliance (NJPA) EZIQC Contract #FL02GC1-051716-JCL with Johnson-Laux Construction LLC of Orlando, FL for design and construction of modifications to the Utility Administration Building for a not to exceed price of $ 250,000, and authorize the City Manager to sign the proposal and Detailed Scope of Work.

C. **PROPOSED RESOLUTION NO. R17-110** - Approve and authorize City Manager to sign a five (5) year renewal agreement with Sensus USA, Inc. (Sensus) for Advanced Metering Infrastructure (AMI) in order to maintain the standardized meter reading equipment and maintain the meter reading efficiency that has been achieved. Estimated five (5) year cost is $415,000.

D. **PROPOSED RESOLUTION NO. R17-111** - Approve an Agreement with Caler, Donten, Levine, Porter & Veil, P.A. of West Palm Beach, FL for Financial Auditing Services for the City of Boynton Beach for the fiscal years ending September 30, 2017, September 30, 2018, and September 30, 2019, with audit fees for each fiscal year of $106,725, $106,725 and $106,725, respectively, in the three-year total amount of $320,175, RFP #072-1410-17/IT.

E. **PROPOSED RESOLUTION NO. R17-112** - Authorize the City Manager to sign a support agreement with Public Safety Software solution from Spillman Technologies, Inc. and to sign financing documents with Motorola Solutions Credit Company, LLC to finance the purchase price.

F. Authorize utilizing the State of Florida Alternate Contract #43211500-WSCA-15-ACS for the purchase of Datrium DVS compute nodes, data nodes, and host software from Transource Services Corp in the amount of $186,329.56. The City is allowed to purchase from State of Florida Contracts.

G. Authorize utilizing the State of Florida Alternate Contract #43220000-WSCA-14-ACS for the purchase of Avaya network infrastructure equipment from STEPcg in the amount of $64,735.52. The City is allowed to purchase from State of Florida Contracts.

H. Approve utilizing the Palm Beach County, FL Sole Source Solicitation SS55542 with IXOM Watercare, Inc.) for MIEX DOC Anion Exchange Resin with the same terms, conditions, specifications and pricing. The maximum anticipated annual expenditure for the purchase of MIEX DOC Resin is $275,000. Palm Beach County has complied with purchasing policies and considered this as a sole source provider of resin.

8. COMMUNITY STANDARDS and LEGAL SETTLEMENTS - None

9. PUBLIC HEARING

7 P.M. OR AS SOON THEREAFTER AS THE AGENDA PERMITS

The City Commission will conduct these public hearings in its dual capacity as Local Planning Agency and City Commission.

A. **PROPOSED ORDINANCE NO. 17-030 - SECOND READING** - Approve 711 North Federal Highway Abandonment (ABAN 17-007) request allowing the abandonment of a portion of the alley immediately west of 711 North Federal Highway, and immediately north of NE 6th Avenue. Applicant: Michael Simon, Executive Director of the Boynton Beach Community Redevelopment Agency (CRA).

B. **PROPOSED ORDINANCE NO. 17-031 - SECOND READING** - Approve amendments to the LAND DEVELOPMENT REGULATIONS, Chapter 1, Article II, Definitions and Chapter 3, Article IV, Section 3.D, Table 3-28, Use Matrix and Footnote #57 to add definitions, use provisions, and standards that regulate the medical marijuana dispensary industry.

10. CITY MANAGER'S REPORT - None

11. UNFINISHED BUSINESS - None

12. NEW BUSINESS

A. Mayor Grant requests approval for $300 of his Community Support Funds to be donated to the Ment2MakeIt, Inc.

B. **PROPOSED RESOLUTION NO. R17-113** - Resolution of City of Boynton Beach in support Florida House of Representatives House Memorial 263 urging the President to extend Haiti's Temporary Status designation for at least 18 months beyond its current January 22, 2018 expiration date. Representative Al Jacquet is available to comment to this topic.

C. Discussion of number of boards people are allowed to serve on at one time, attendance policies, eligibility rules and qualification of members for all boards.

D. Discussion on Public Art as requested by Vice-Mayor Katz.

13. LEGAL - None

14. FUTURE AGENDA ITEMS

A. Staff will prepare a list of legislative priorities for the 2018 legislative session for the Commission's input and approval. - **December 19, 2017**

B. Quarterly report on red light camera program (Oct 2017-Dec 2017) - **January 2018**

C. Quarterly report on gov't surtax fund (Oct 2017-Dec 2017) - **January 2018**

D. Staff to research possibility of allowing dogs at the beach during certain hours and bring back to Commission - **TBD**

E. The Commission has requested for a representative of ATS attend a commission meeting to discuss possible additional features/services - **TBD**

F. **PROPOSED ORDINANCE NO. 17-021 - SECOND READING** - Approve Town Square Future

Land Use Map Amendment from Public and Private Governmental/Institutional (PPGI) and High Density Residential (HDR) to Mixed Use Medium (MXM) and rezone from PU Public Usage, REC Recreation and R-3 Multifamily to MU-3 Mixed Use 3 zoning district. City-initiated***(First Reading approved 8/15, Second Reading Pending Fl. Dept. of Economic Opportunity approval, which takes approximately 2 to 4 months.)***

PROPOSED ORDINANCE NO. 17-022 - SECOND READING - Amending Ordinance 02-013 to Rezone a Parcel of Land Described Herein and Commonly Referred to as Town Square From Public Usage (Pu); Recreation (Rec) And Multifamily (R-3) to Mixed Use 3 (Mu-3).

G. Staff to bring information concerning the following land parcels for the Commission to review - **TBD**

Nichols Property
Leisureville Property
Rolling Green
Scrub Parcel by Galaxy School
Girl Scout Park

H. Approve Exeter / Sterling Records Phase III Major Site Plan Modification (MSPM 17-008) to construct a one-story, 56,160 square foot warehouse building and related site improvements, located at 1210 SW 35th Avenue in the M-1 (Industrial) zoning district. Applicant: Allan Hendricks, Caulfield & Wheeler, Inc.

I. Approve Aldi Grocery Land Use and Rezoning (LUAR 17-006) to support the intended 17,880 square foot grocery store building and related site improvements at 3452 W. Boynton Beach Boulevard. Applicant Bonnie Miskel, Dunay, Miskel & Backman, LLP.

1. Future Land Use Map Amendment from Office Commercial (OC) to Local Retail Commercial (LRC).

2. Rezone from C-1 (Office and Professional) to C-3 (Community Commercial).

J. Approve Aldi Grocery Variance (ZNCV 17-001) for the relief from the City of Boynton Beach Land Development Regulations, Chapter 3, Article III, Section 3.C.3., Community Commercial (C-3) Building/Site Regulations, requiring a minimum rear setback of 20 feet, to allow a rear setback of 14 feet, a variance of 6 feet, for a proposed Aldi Grocery Store within the C-3 Community Commercial zoning district. Applicant: Bonnie Miskel, Duany, Miskel & Backman, LLP.

K. Approve Aldi Grocery Community Design Appeals (CDPA 17-006) from 1) Chapter 4, Article III, Section 3.G., “Overhead doors facing rights-of-way”; 2) Chapter 4, Article III, Section 7.D.2., “Parapet roof return requirements”; 3) Chapter 4, Article III, Section 7.G.2. “Covered walks along building facades”; and 4) Chapter 4, Article III, Section 7.J.1. “Off-street parking locational criteria”. Applicant: Bonnie Miskel, Dunay, Miskel & Backman, LLP.

L. Approve Aldi Grocery Major Site Plan Modification request (MSPM 17-005) to construct a one-story, 17,880 square foot grocery store building and related site improvements at 3452 W. Boynton Beach Boulevard. Applicant: Bonnie Miskel, Dunay, Miskel & Backman, LLP.

15. ADJOURNMENT

NOTICE

IF A PERSON DECIDES TO APPEAL ANY DECISION MADE BY THE CITY COMMISSION WITH RESPECT TO ANY MATTER CONSIDERED AT THIS MEETING, HE/SHE WILL NEED A RECORD OF THE PROCEEDINGS AND, FOR SUCH PURPOSE, HE/SHE MAY NEED TO ENSURE THAT A VERBATIM RECORD OF THE PROCEEDING IS MADE, WHICH RECORD INCLUDES THE TESTIMONY AND EVIDENCE UPON WHICH THE APPEAL IS TO BE BASED. (F.S. 286.0105)

THE CITY SHALL FURNISH APPROPRIATE AUXILIARY AIDS AND SERVICES WHERE NECESSARY TO AFFORD AN INDIVIDUAL WITH A

DISABILITY AN EQUAL OPPORTUNITY TO PARTICIPATE IN AND ENJOY THE BENEFITS OF A SERVICE, PROGRAM, OR ACTIVITY CONDUCTED BY THE CITY. PLEASE CONTACT THE CITY CLERK'S OFFICE, (561) 742-6060 OR (TTY) 1-800-955-8771, AT LEAST 48 HOURS PRIOR TO THE PROGRAM OR ACTIVITY IN ORDER FOR THE CITY TO REASONABLY ACCOMMODATE YOUR REQUEST.

ADDITIONAL AGENDA ITEMS MAY BE ADDED SUBSEQUENT TO THE PUBLICATION OF THE AGENDA ON THE CITY'S WEB SITE. INFORMATION REGARDING ITEMS ADDED TO THE AGENDA AFTER IT IS PUBLISHED ON THE CITY'S WEB SITE CAN BE OBTAINED FROM THE OFFICE OF THE CITY CLERK.

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
Call to Order - Mayor Steven B. Grant

Invocation

Pledge of Allegiance to the Flag led by Commissioner Casello

Roll Call

Agenda Approval:

1. Additions, Deletions, Corrections
2. Adoption

EXPLANATION OF REQUEST:

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT: Non-budgeted

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Informational items by Members of the City Commission

---

EXPLANATION OF REQUEST:

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT:

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION:

Is this a grant?

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Announcement by Jeanne Heavilin about the Greater Boynton Beach Sister Cities' Traveling Sauna event that will be held at Intracoastal Park, 2240 N. Federal Hwy., on Saturday, November 18th. Activities will begin at 10:00 am.

EXPLANATION OF REQUEST: The Traveling Sauna event will mark and celebrate Finland's centennial year and commemorate the relationship between the City of Boynton Beach and Rauma, Finland.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
N/A

FISCAL IMPACT: N/A

ALTERNATIVES: N/A

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Attachment	Flyer

A Sauna in South Florida? Really?

Yes! Experience a real sauna –

in Boynton Beach!

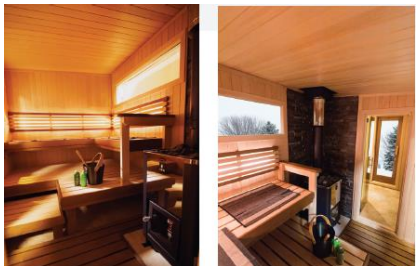
Saturday,
November 18, 2017
10:00 AM – 6:00 PM

Intracoastal Park
2240 N. Federal Highway
Boynton Beach, FL 33435

Celebrating Finland's Centennial and the Sister Cities relationship between Rauma, Finland and Boynton Beach

The Traveling Sauna

Reservations are required.
www.signupgenius.com/go/5080f4aaeab2dabf49-sister
Admission is $10/hour for the Sauna.
Bathing suits are required. Changing room & shower available.



To enjoy an authentic sauna experience, Finnish style, Finnish food will also be available for purchase.

For information, contact boyntonsistercities@gmail.com or call 561-901-8714.

Sponsored by greater Boynton Beach Sister Cities and the City of Boynton Beach

Greater Boynton Beach Sister Cities

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Update from Boynton Beach Mental Health Committee by the Chair, Woodrow Hay.

EXPLANATION OF REQUEST:

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT:

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Attachment	Report

Boynton Beach Mental Health Committee
Report to the City Commission—November 7, 2017

Highlights of Year 3—Presented by Rev. Woodrow Hay, Chair

- One of our most important accomplishments this year was the production of our brochure "Finding Hope When you Need Help" that carries the message that it's ok to ask for help when you have signs of a mental illness and offers a starter list of resources. This is a collaborative project with Bethesda Health as part of their Needs Assessment. They are placing the brochure in all of the hospital waiting rooms. It is also being placed in many other locations in Boynton Beach. Brochures are available here and in the lobby so be sure to take one.

- We are actively engaged in the Healthier Boynton Beach collective impact initiative on Family Caregiving…sponsored by Palm Healthcare Foundation….. because caregivers are a high risk group for mental illness. Members serve on the Steering Committee and on sub groups. In fact November is National Caregivers Month so we are celebrating family caregivers at the First Annual Caregiver Recognition Luncheon this Thursday at Intracoastal Park with good food, music, entertainment, and gift bags..to give them a "feel good day" and let them know they are appreciated.

- We are proud to announce new members of the Committee: Jerry Taylor, former mayor who helped create the committee; Jeannie Taylor who serves as liaison to the library; and Howard Williams who manages our website and Facebook.

- 20 Parks and Recreation staff received Mental Health First Aid (MHFA) training, as did the HR department and some members of the police department, dispatchers and fire fighters.

- The third year of our signature Psychology Day project at Boynton Beach Community HS, where we bring in mental health professionals to help students explore career opportunities in mental health, is being planned for early next year. We are pleased that students in the Medical Academy will join students in the psychology classes for this project for the first time. The professionals love coming to school, being hosted by the principal and interacting with students..It's a win-win event for everyone.

- In the coming months we hope to work with HR to schedule some lunch and learn sessions with city employees. An employee survey was conducted to learn topics of most interest….and we will be guided by that list.

- We had a productive team retreat in August to review accomplishments and set priorities. One is to engage Boynton Beach faith leaders and their congregants in Mental Health education and awareness. Our target is to train 100 participants in MHFA; then follow up with educational sessions with mental health professionals and consultants who are experienced in educating faith leaders about mental health. Clergy are very aware of this need and are ready to participate.

- The second priority is to expand networking to broaden community involvement in the work of the BBMHC . To this end the Committee joined the Boynton Beach Chamber of Commerce to gain this important exposure.

- Last year Boca Raton's Promise honored two of our leaders for achievement on the local and county levels with a Voice Award presentation: to Gerda Klein for Community Leadership at a December luncheon at Kravis Center; and to me for my work with clergy, presented at an awards luncheon for elected officials in October. We are humbled and encouraged by this special recognition.

- We have established a firm partnership with Alpert Jewish Family and Children's Service to serve as Boynton Beach community's full service agency for mental health services. The Main office is on west 45th Street in WPBeach. The local office is on Lake Worth Road. Boynton Beach is the southern most boundary of the agency's service area. Their agency's CEO and Clinical Director have been in conversation with some of our partners. The clinical director also facilitated our Committee's recent retreat, and is well versed in and supportive of our mission.

THESE ARE SELECTED HIGHLIGHTS…WE ARE ENGAGED WITH 14 COMMUNITY PARTNERS IN EDUCATION AND AWARENESS PROJECTS AND ACTIVITIES ….WE ARE PROUD THAT THE CITY OF BOYNTON BEACH, MAYOR GRANT, CITY COMMISSIONERS, THE CITY MANAGER AND MANY DEPARTMENTS ARE SUPPORTIVE OF OUR MISSION AND COLLABORATE WITH US. WE ASK FOR YOUR CONTINUED SUPPORT TO ASSURE THAT WE HAVE THE RESOURCES TO ENGAGE IN THESE AND NEW INITIATIVES TO MAKE BOYNTON BEACH A MODEL CITY FOR MENTAL HEALTH.

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Proclaim November 11-19, 2017 as Hunger and Homelessness Awareness Week.

EXPLANATION OF REQUEST:
For 30 years, the Homeless Coalition has been the voice for the homeless advocating for their rights and a place they can call home. The Coalition has been a strong leader within the community by recommending policy changes to improve services for the homeless. It also identifies homeless strategies that can produce results, and gets the message out to the community for prompt action.

The Coalition's Policy and Legislative Committee brings issues forward and offers solutions. The Coalition constantly monitors national, state and local legislation and news to distribute information through the Coalition's communication network including the website and social media.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT: Non-budgeted None

ALTERNATIVES: Not to make proclamation

STRATEGIC PLAN: Building Wealth in the Community

STRATEGIC PLAN APPLICATION:
Recognizing and coming to the aid of those in need brings a community together to build a stronger and brighter tomorrow for all.

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Proclamation	Proclamation

City of Boynton Beach

Proclamation

WHEREAS, people from all walks of life, including families with children, employed and unemployed workers, elderly residents, veterans, disabled individuals, youth, and individuals are impacted by hunger and homelessness, and;

WHEREAS, while homelessness creates barriers to accessing essential services, such as affordable health care, housing, child care, and education, the costs of these basic necessities often contribute to hunger, food insecurity, and people experiencing homelessness on any given night in Palm Beach County, and

WHEREAS, the theme of National Hunger and Homelessness Awareness Week 2017 is focused on bringing America home by focusing on the laws passed by local governments around the nation which prevent people experiencing homelessness from doing life- sustaining activities such as sitting, lying and sleeping in public spaces, and;

WHEREAS, , the City of Boynton Beach encourages all citizens to recognize that some people do not have housing and need support from citizens and private/public nonprofit service entities, and

WHEREAS, , the intent of Hunger and Homelessness Awareness Week is consistent with the activities of the Homeless Advisory Board, Homeless Coalition, Homeless and Housing Alliance, Palm Beach County Food Bank and other service providers in Palm Beach County.

NOW THEREFORE, I, Steven B. Grant, Mayor of the City of Boynton Beach, Florida, do hereby proclaim the week of November 11 – 19 of Two Thousand Seventeen as:

HUNGER AND HOMELESSNESS AWARENESS WEEK

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Seal of the City of Boynton Beach, Florida, to be affixed at Boynton Beach, Florida, the 7th Day of November, Two Thousand Seventeen.

_____
Steven B. Grant, Mayor

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Announcement by Recreation & Parks Director Wally Majors about the upcoming Holiday Events.

EXPLANATION OF REQUEST:
Holiday Movie - Friday, December 1 - 7pm @ 129 East Ocean Avenue
Holiday Parade - Saturday, December 2, 4pm on Federal Hwy.
Holiday Tree Lighting - Sat., Dec. 2, 5:30pm @ 129 East Ocean Avenue
Holiday Boat Parade - Friday, December 8, 6pm @ 735 Casa Loma Blvd.
Music on the Rocks - Friday, Dec. 15, 6pm @ 129 East Ocean Avenue

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? No affect

FISCAL IMPACT: Budgeted Funding for these events is included in the CRA and City's budgets.

ALTERNATIVES: Do not make the announcement.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant?

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
Announce The City of Boynton Beach is hosting a Flood Awareness Workshop on Wednesday, November 8th from 5:30-7:00 pm at the Intracoastal Park Clubhouse. The workshop will answer residents' questions about flooding and City services, the newly revised FEMA flood insurance rate maps will be on display. For more information, contact Rebecca Harvey, Sustainability Coordinator at 742-6494. The flyer is available at the back of the Chambers.

EXPLANATION OF REQUEST: The City of Boynton Beach is hosting a Flood Awareness Workshop to coincide with the November King Tides on Wednesday, November 8th from 5:30-7:00 pm at the Intracoastal Park Clubhouse. The workshop will answer residents' questions about flooding and City services, and will provide a forum for the public to interact with City officials and scientists. The newly revised FEMA flood insurance rate maps will be on display and light refreshments will be served. For more information, contact Rebecca Harvey, Sustainability Coordinator at 742-6494, HarveyR@bbfl.us.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT:

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: Yes

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Other	Flood Workshop flyer

CITY OF BOYNTON BEACH

Flood Awareness Workshop

A King Tide Event

The City of Boynton Beach marks the November King Tides with an educational workshop for the public to learn about flood risks including storms, high tides, and sea-level rise. The workshop will answer questions about flooding and City services, and will provide a forum for the public to interact with experts and view the newly revised FEMA flood insurance rate maps. Light refreshments will be served.

Wednesday, November 8th, 5:30-7:00 pm

Intracoastal Park Clubhouse
2240 North Federal Highway, Boynton Beach

Featuring:

Mayor Steven Grant
Colin Groff, Assistant City Manager
Dr. Alec Bogdanoff, President & Co-Founder, Brizaga, Inc.
Liz Perez, President & Founder, Collective Water Resources

For more information, contact Rebecca Harvey, Sustainability Coordinator, (561) 742-6494, HarveyR@bbfl.us

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Announce that Boynton Beach East Water Treatment Plant project received Envision Award for Sustainable Infrastructure

---

EXPLANATION OF REQUEST:
The “Boynton Beach Ion Exchange Resin Plant and East Water Treatment Plant Improvements” project received the Institute for Sustainable Infrastructure's Envision Bronze award. The award recognizes the City’s project for its environmental, social, and economic benefits. The upgraded East Water Treatment Plant processes 24 million gallons of water per day to support the potable water needs of a growing population for decades to come. The project protects the local environment and drinking water supply by avoiding saltwater intrusion, and diversifies water sources to reduce dependence on the surficial aquifer.

The plant is now equipped with a state-of-the-art MIEX© water pretreatment system that removes organic compounds and color from the water while reducing chemical use. Other improvements to the plant include filter valve replacements, replacement of high-service pumps with premium efficiency pumps and motors, improved stormwater management, modifications to the disinfection system, upgraded security features, and a new three-million gallon water storage tank. The project also includes a public art installation designed to create a connection between visitors to the facility and the facility itself.

The $30.8 million dollar project was managed locally by CDM Smith of Boca Raton, in partnership with Carollo Design Build Group, The Merchant Strategy, PCL, AW Architects, Tierra South Florida, Engenuity Group, Cooper Construction Management & Consulting, and DCR Engineering Services.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? The City provides water services to Utilities customers in a more sustainable manner; the City also receives national, state, and local press coverage and recognition for this award.

FISCAL IMPACT:

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: Yes

CLIMATE ACTION DISCUSSION:

Reduced energy use and greenhouse gas emissions from East Water Treatment Plant; reduction of saltwater intrusion from sea level rise.

Is this a grant?

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
Announce the annual reappointment of those advisory board seats with terms expiring in December 2017. The following boards will have openings:

- Arts Commission,
- Building Board of Adjustments and Appeals,
- Education and Youth Advisory Board,
- Employee Pension Trust Fund Board,
- Library Board,
- Planning and Development Board,
- Recreation and Parks Board and
- Senior Advisory Board.

Information on the boards and applications are available online. Applications can also be taken at the City Clerk's office in City Hall or sent to cityclerk@bbfl.us. All applicants must be registered voters in Palm Beach County.

EXPLANATION OF REQUEST: Advisory boards have been established with members appointed for specific staggered terms. Most boards have appointments that will expire in December of each year.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT: Non-budgeted

ALTERNATIVES: Do not make the announcement

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: City Hall will be closed on Veterans Day, Friday, November 10, 2017.

EXPLANATION OF REQUEST: In observance of Veterans Day, all City administrative offices will be closed on Friday, November 10, 2017 and will re-open at 8:00 a.m. on Monday, November 13, 2017.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT: Budgeted N/A

ALTERNATIVES: This is a scheduled holiday for City employees.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: City Hall will be closed for the Thanksgiving holiday on Thursday, November 23 and Friday, November 24, 2017.

EXPLANATION OF REQUEST: In observance of Thanksgiving, all City administrative offices will be closed on Thursday, November 23 and Friday, November 24, 2017. City Hall will re-open on Monday, November 27, 2017 at 8:00 p.m.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT: Budgeted N/A

ALTERNATIVES: These two days are regularly scheduled holidays for City employees.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
Appoint eligible members of the community to serve in vacant positions on City advisory boards. The following Regular (Reg) and Alternate (Alt) Student (Stu) and Nonvoting Stu (N/V Stu) openings exist:

Arts Commission: 2 Alts
Building Board of Adjustments & Appeals: 2 Regs and 2 Alts
Employee Pension Board: 1 Reg
Library Bd: 1 Alt
Senior Advisory Bd: 1 Alt

EXPLANATION OF REQUEST: The attached list contains the names of those who have applied for vacancies on the various Advisory Boards. A list of vacancies is provided with the designated Commission members having responsibility for the appointment to fill each vacancy.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? Appointments are necessary to keep our Advisory Board full and operating as effectively as possible.

FISCAL IMPACT: Non-budgeted None

ALTERNATIVES: Allow vacancies to remain unfilled.

STRATEGIC PLAN: High Performing City Organization

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Other	Appointments

APPOINTMENTS AND APPLICANTS FOR NOVEMBER 7, 2017

Arts Commission

IV	Casello	Alt	1 yr term to 12/17
Mayor	Grant	Alt	1 yr term to 12/17

Applicants

None

Building Board of Adjustments and Appeals

Mayor	Grant	Alt	1 yr term to 12/17
I	Katz	Alt	1 yr term to 12/17
II	McCray	Reg	3 yr term to 12/17
III	Romelus	Reg	3 yr term to 12/18)

Applicants

None

Employee Pension Board

I	Katz	Reg	3 yr term to 12/17 Tabled (2)

Applicants

None

Library Board

II	McCray	Alt	1 yr term to 12/17 Tabled (2)

Applicants

None

Senior Advisory Board

I	Katz	Alt	1 yr term to 12/17 Tabled (3)

Applicants

None

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
Discussion as to whether Commission wishes to changes the following Commission Dates in 2018:

Tuesday, September 18, 2018
Tuesday, November 6, 2018

EXPLANATION OF REQUEST:
Tuesday, September 18, 2018, Yom Kippur. Consider moving to Monday, September 17 or Thursday, September 20.

Tuesday, November 6, 2018, PBC General Elections. Consider moving to Monday, November 5 or Wednesday, November 7.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? N/A

FISCAL IMPACT: N/A

ALTERNATIVES: Do not change meeting dates

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Authorize members of the Planning & Development Board to attend a Planning Officials Training Workshop on Friday, November 17, 2017 at the Village of Palm Springs, FL.

EXPLANATION OF REQUEST:
The Treasure Coast Section of the Florida Chapter, American Planning Association (APA), announces the Second Annual Planning Officials Training Workshop; a day-long seminar designed to provide planning officials and advisory board members an overview of their purpose and how they fit into the overall governance of their cities and towns.

The Section had such great success with last year's workshop (over 60 attendees) that we have decided to offer this event annually. This year's workshop will occur on Friday, November 17, 2017 hosted by the Village of Palm Springs. We are pleased that the Treasure Coast Regional Planning Council (TCRPC) will be joining us this year as a Co-Sponsor of the Workshop.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
APA promotes public engagement, good planning, and high ethical standards and believes that we can build a constituency for good planning through education. As a Section of APA, we feel it is our responsibility to provide our local advisory board members with basic training about the role that good planning and implementation play in helping to create and maintain communities of lasting value. Our experienced speakers will present information about comprehensive planning, land development regulation, and zoning to help planning officials learn how they can effectively contribute to the quality of life in their communities.

Who should consider attending?

•New planning & zoning board commissioners and members of zoning boards of appeals, historic preservation boards, site plan review boards, architectural review boards, and other advisory board members seeking to better understand their roles and responsibilities;
•Existing planning commissioners and other board members needing a refresher and/or desiring to learn about emerging trends in planning, including innovative planning tools and techniques;
•Newly elected and appointed officials desiring to learn more about the pivotal role that planning makes in shaping our communities;
•Emerging planning professionals desiring to attend a local seminar and gain insight from planning experts.

FISCAL IMPACT:
Registration is $25 per person if registered by November 10, 2017.

ALTERNATIVES: Do not approve anyone to attend

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Attachment	Flyer

American Planning Association
Florida Chapter
Treasure Coast Section

Second Annual

Planning Officials Training Workshop

Friday, November 17, 2017
7:30am - 4:30pm Lunch will be provided!

Village of Palm Springs Council Chambers
226 Cypress Lane - Palm Springs, FL 33461

Please register by…
November 10th
for the reduced rate and to guarantee a seat!

Are you an appointed advisory board member or an elected official making planning and zoning recommendations or decisions for your local government? If so, then this one-day workshop, organized by the ***Treasure Coast Section of the Florida Chapter, American Planning Association***, is tailored just for you!

Planning officials will receive basic instruction and information about...

- Planning principles and process
- Responsibilities of various advisory boards
- Legal considerations
- How to run an effective board meeting
- Sustainability
- Urban Design
- Economics of new development/growth
- Current trends
- Public participation methods

Each participant will leave the course with a Certificate of Completion and copies of all materials presented throughout the day.

Early Registration
(before November 10th) only...

$25.00 per person

Registration by... *November 15th = $35.00*
November 16th & 17th = $45.00
(space permitting)

To register and pay via PayPal please visit the following link or scan the QR code below:

floridaplanning.org/tcplanningworkshop

Hosted By:

Co-Sponsored By:

IMPORTANT:
Doors will open at 7:30am for registration, networking, and a continental breakfast. The program will begin promptly at 8:00am.

Please contact the following for any questions:
Kim Glas-Castro, AICP at kglas-castro@vpsfl.org or 561.434.5086

For additional information and other news & events, please visit the Treasure Coast Section's website at:
http://www.floridaplanning.org/apa-fl-sections/treasure-coast/

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-100 - Approve and authorize the City Manager (or designee) to apply for the State permit necessary to temporarily close Federal Highway on Saturday, December 2, for the Annual Holiday Parade.

EXPLANATION OF REQUEST: Federal Highway between Woolbright Road and Ocean Avenue, serves as the route for the Annual Holiday Parade. The closing of this road requires a permit from the Florida Department of Transportation (FDOT) and pursuant to Chapter 14-65 of the Florida Administrative Code, FDOT requires local governments to submit a Request for Temporary Closing/Special Use of State Road along with a resolution authorizing the event.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
The Parade is scheduled to start at 4:00 P.M. on Saturday, December 2. It will travel north on the southbound lane of Federal Highway beginning at SE 12th Avenue to Ocean Avenue where the Parade turns west. It will be necessary to close this portion of Federal Highway beginning at 1:00 P.M..

FISCAL IMPACT: Budgeted None

ALTERNATIVES: N/A

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Resolution	Resolution approving road closure and authorizing City Manager to apply for State Permit

RESOLUTION NO. R17 -

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, AUTHORIZING THE TEMPORARY CLOSING OF FEDERAL HIGHWAY ON DECEMBER 2, 2017, FOR THE ANNUAL HOLIDAY PARADE AND AUTHORIZING THE CITY MANAGER OR HER DESIGNEE TO APPLY FOR STATE PERMITS FOR THE TEMPORARY ROAD CLOSING; PROVIDING FOR EFFECTIVE DATE.

WHEREAS, the City of Boynton Beach's annual Holiday Parade is scheduled to be held on Saturday, December 2, 2017 at 4:00 p.m.; and

WHEREAS, in order to provide for the safety of the participants and citizens attending the Holiday Parade, Federal Highway will be required to be closed from Boynton Beach Boulevard south to Woolbright Road beginning at 1:00 p.m.; and

WHEREAS, the Florida Department of Transportation requires the local government to authorize all temporary road closures on state roadways; and

WHEREAS, the City Commission of the City of Boynton Beach desires to authorize the temporary closing of Federal Highway from Boynton Beach Boulevard south to Woolbright Road on December 2, 2017, to provide for the safety of the participants and citizens attending the Holiday Parade; and

WHEREAS, the City Manager (or her designee) is authorized to apply for the permit for temporary closing of state roads for special events, pursuant to Chapter 14-65, Florida Administrative Code, for said temporary closings;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "WHEREAS" clauses are true and correct and hereby ratified and confirmed by the City Commission

Section 2. That the City Commission of the City of Boynton Beach authorizes the temporary closing of Federal Highway from Boynton Beach Boulevard south to Woolbright Road commencing at 1:00 p.m. on Saturday, December 2, 2017, for the annual Holiday Parade.

Section 3. The City Manager (or her designee) is hereby authorized to apply for permits from the Florida Department of Transportation pursuant to Chapter 14-65, Florida Administrative Code, for said temporary closings.

Section 4. That this Resolution will become effective immediately upon passage.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-101 - To support and encourage the efforts to proceed with improvements to the Chain of Lakes, the Ocean to Trails Initiative and development of a boat lift at the C51 Canal S155 control structure.

EXPLANATION OF REQUEST:
The City Commission discussed the request to pass a supporting resolution and voted unanimously on October 3, 2017 to approve a resolution.

Robert Shalhoub, President Pro Tem of Lake Clarke Shores addressed this issue with the Commission on October 3rd.

The Board of Directors of the PBC League of Cities passed Resolution 2016-01 on January 27, 2016 supporting and encouraging development of the chain of lakes blueway trail project (see attached)

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? N/A

FISCAL IMPACT: Non-budgeted None

ALTERNATIVES:
N/A

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Resolution	Resolution Supporting C-51 Improvements
Attachment	Minutes 10-3-17
Attachment	PBC League Reso 2016-01
Attachment	Reso - Indirect Cities

RESOLUTION R17-

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA SUPPORTING AND ENCOURAGING EFFORTS BY THE TOWN OF LAKE CLARKE SHORES AND NEIGHBORING MUNICIPALITIES TO PROCEED WITH IMPROVEMENTS TO THE CHAIN OF LAKES, THE OCEAN TO TRAILS INITIATIVE AND DEVELOPMENT OF A BOAT LIFT AT THE C51 CANAL S155 CONTROL STRUCTURE; PROVIDING AN EFFECTIVE DATE; AND FOR OTHER PURPOSES

WHEREAS, Section 163.01, Florida Statutes, known as the "Florida Interlocal Cooperation Act of 1969," authorizes local governments to make the most efficient use of their powers by enabling them to cooperate with other localities on a basis of mutual advantage and thereby to provide services and facilities that will harmonize geographic, economic, population and other factors influencing the needs and development of local communities; and

WHEREAS, the desire of our sister cities to develop recreational opportunities, encourage economic development, and create new jobs within their regional area while enhancing the environmental attributes of their communities should be commended; and

WHEREAS, the Treasure Coast Regional Planning Council (TCRPC) created ***The Intracoastal Waterway Plan for Palm Beach County: Charting a Course for the Future*** (’09 Charrette) for the Palm Beach County Metropolitan Planning Organization (MPO) published in January 2009; and

WHEREAS, the '09 Charrette participants identified six core public themes including increasing public access to the Intracoastal Waterway (ICW), protecting natural resources, expanding all forms of water based transportation, and promoting sustainable economics; and

WHEREAS, the MPO requested the ’09 Charrette be updated by TCRPC and their report was published in January 2015 which documented that a connection to the ICW at the S155 Control Structure on the C51 Canal would have significant economic and recreational

benefit; and

WHEREAS, the C51 Canal is connected to a 26 mile chain of freshwater lakes (Pine Lake, Lake Clarke, Lake Osborne, Lake Eden and Lake Ida) and navigable canals within our regional area; and

WHEREAS, the City of Boynton Beach supports improvements to the C51 Canal that would enhance the recreational uses of the ICW, C51 Canal, and the Chain of Lakes and provide for new economic opportunities and job creation; and

WHEREAS, a connection between the ICW and the C51 Canal at the S155 Control Structure would provide for economic development, job creation and recreational enhancement. The connection has been referred to as the "Boat Lift" and is estimated to provide significant economic benefit to the regional area; and

WHEREAS, the City of Boynton Beach recognizes a significant environmental resource in the canals and lakes that must be protected and improved; and

WHEREAS, the Boat Lift provides for environmental enhancement to the waterways, safe and effective portage opportunities for non-motorized recreational watercraft, and small motorized boats to access the ICW; and

WHEREAS, the current President of the Palm Beach County (PBC) League of Cities has created an initiative called Ocean to Lake Trails focused on enhancement of the land and water trail system from the Ocean to the Lake Okeechobee Trail System; and

WHEREAS, the Ocean to Lake Trails Committee of the PBC League of Cities has identified the Boat Lift and the associated improvements to the ICW and the C-51 as vital to that Ocean to Lake Trails initiative; and

WHEREAS, Palm Beach County Commissioner, Shelley Vana, hosted a regional visioning session, where redevelopment was the number one priority for this area of Palm Beach County; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA:

SECTION 1: The foregoing "WHEREAS" clauses are true and correct and hereby ratified and confirmed by the City Commission

SECTION 2: **The City Commission fully acknowledges and supports the following:**

A. Recreational opportunities, economic development and environmental enhancement which occur within the partner municipalities are beneficial to the regional area and ultimately to the City of Boynton Beach; and

B. The efforts of the partner municipalities to proceed with improvements to the chain of lakes, the Ocean to Lake Trails initiative and development of a boat lift at the C51 canal and the S155 control structure.

SECTION 3: This Resolution shall take effect immediately upon passage.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

11. UNFINISHED BUSINESS – None

12. NEW BUSINESS

A. Approve the Right of Way dedication of 7.5 feet of property along the southern property boundary of the property located at 711 N. Federal Highway to the City of Boynton Beach as approved by the Community Redevelopment Agency (CRA) on August 8, 2017.

Motion

Commissioner Romelus moved to approve. Commissioner McCray seconded the motion.

Vote

The motion unanimously passed.

B. The Mayor has requested to discuss the possibility of a resolution by the City in support of development of a boat lift at the C51 canal. Robert Shalhoub, President Pro Tem of Lake Clarke Shores to participate in discussion.

Robert Shalhoub, President Pro Tem, Lake Clark Shores, explained the concept arose four years ago. There are five chains of lakes comprising about 23 miles along the ICW, but there is no access to the salt water Intracoastal. The spillway between West Palm Beach and Lake Worth is the best location for ICW access. Mr. Shalhoub went to Tallahassee two years ago and obtained $287,000 for the engineering and design of the lift, which was completed. They approached the Board of City Commissioners seeking a line item request of about $25,000 as seed money to make application for a permit and was successful. They need to have an entity sign the application. The South Florida Water Management District (SFWMD) and the Florida League of Cities supported the application and passed a resolution of support, as did 15 other communities. The Treasure Coast Regional Planning Council conducted a study in January 2015 and it suggested if the ICW goes through, there will be an increase in ad valorem taxes in Palm Beach County of $30 million to $ 75 million annually. It will be an engine to encourage economic development along the ICW, West Palm Beach, and Lake Worth. Mr. Shalhoub explained all the municipalities on the chain of lakes has a vested interest in the item. The lift can handle boats that are no more than 23.5 feet. The height of the boat can be no more than 5.5 feet from the water level to the boat canopy. About 80% of boats registered in Palm Beach County can access the ICW with these measurements. Twenty-four cities did not sign on. Commissioner McCray recalled the City Commission supported the item when it was first introduced.

The lift will be on the north side of Lake Worth at Spillway Park. An interlocal agreement has to be entered into with the SFWMD, the City of Lake Worth and Palm Beach County. Mayor Triolo supports it and wants the County to assume full responsibility for the project.

Commissioner McCray noted the staging of boats will not be a problem and asked about the boat trailers. Mr. Shalhoub explained there is no access and boaters will have to get in the queue. There will also be access for non-motorized watercraft such as canoes and paddleboard. Seado's and jet skis were not contemplated at this time. Mayor Grant favored the request as the City is on the chain of lakes and now boaters can go to 2 Georges and Banana Boat. He also hoped the County would raise the height of the bridges over the chain of lakes as he had heard that sometimes boats could not get through during high tide. He commented the request was a benefit to the County and City and to increase the Blueways in Palm Beach County. Mr. Shalhoub had flyers he distributed to the City Commission.

Mayor Grant opened public comment. No one came forward.

Motion

Vice Mayor Katz moved to approve. Commissioner McCray seconded the motion.

Vote

The motion unanimously passed.

C. Discussion relating to the Building Board of Adjustment and Appeals Board as to establishment, duties and future.

Attorney Cherof explained the meeting backup includes the City of Boynton Beach local amendments to the Florida Building Code, describing the responsibilities and the Board's scope of authority. It was created prior to the previous Building Code, which evolved into the Florida Building Code. The Board meets infrequently and only when there is a specific appeal if someone challenges the interpretation of building official or city administrator. In the last few years, the Board only met two or three times. When the Building Code was different, they met more frequently. Commissioner Romelus asked Mr. Mack if he foresaw future changes.

Andrew Mack, Development Director, explained in nine years, the Board met 10 to 12 times. Specifically, the Board reviews appeals as part of due process through Business Tax or the Building Code. Commissioner McCray asked if the Board was a viable asset to the City. Mr. Mack explained the idea that they meet infrequently is a good thing. The Board gives the community a voice and there are contractors and attorneys on the Board that make rulings. The Board is advisory and makes a finding that is only appealable to the court. It is not a redundant Board. The Building Department can only give a certain amount of permit extensions for certain applications. During the economic downturn, there were times the Board granted further extensions. Another issue the Board may review is whether the Building Official is interpreting the Code correctly The Board provides a viable service.

RESOLUTION 2016-01

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE PALM BEACH COUNTY LEAGUE OF CITIES, INC. SUPPORTING AND ENCOURAGING DEVELOPMENT OF THE CHAIN OF LAKES BLUEWAY TRAIL PROJECT WHICH INCLUDES IMPROVEMENTS TO THE CHAIN OF LAKES, THE OCEAN TO LAKE TRAILS INITIATIVE AND DEVELOPMENT OF A BOAT LIFT AT THE C51 CANAL S155 CONTROL STRUCTURE; PROVIDING AN EFFECTIVE DATE; AND FOR OTHER PURPOSES

WHEREAS, Section 163.01, Florida Statutes, known as the "Florida Interlocal Cooperation Act of 1969," authorizes local governments to make the most efficient use of their powers by enabling them to cooperate with other localities on a basis of mutual advantage and thereby to provide services and facilities that will harmonize geographic, economic, population and other factors influencing the needs and development of local communities; and

WHEREAS, the desire of our cities to develop recreational opportunities, encourage economic development, and create new jobs within their regional area while enhancing the environmental attributes of their communities should be commended; and

WHEREAS, the Treasure Coast Regional Planning Council (TCRPC) created ***The Intracoastal Waterway Plan for Palm Beach County: Charting a Course for the Future*** ('09 Charrette) for the Palm Beach County Metropolitan Planning Organization (MPO), published in January 2009; and

WHEREAS, the '09 Charrette participants identified six core public themes including increasing public access to the Intracoastal Waterway (ICW), protecting natural resources, expanding all forms of water based transportation, and promoting sustainable economics; and

WHEREAS, the MPO requested the '09 Charrette be updated by TCRPC and their report was published in January 2015 which documented that a connection to the ICW at the S155 Control Structure on the C51 Canal would have significant economic and recreational benefit; and

WHEREAS, the municipalities within the heart of Palm Beach County are working to stimulate economic development by creating opportunities for ecotourism and a new freshwater marine industry and are calling the initiative the Chain of Lakes Blueway Trail Project; and

WHEREAS, the C51 Canal is connected to a 26-mile chain of freshwater lakes (Pine Lake, Lake Clarke, Lake Osborne, Lake Eden and Lake Ida) and navigable canals within our regional area; and

WHEREAS, a connection between the ICW and the C51 Canal at the S155 Control Structure would provide for economic development, job creation and recreational enhancement. The connection has been referred to as the "Boat Lift" and is estimated to provide significant

economic benefit to the regional area; and

WHEREAS, the Boat Lift provides for environmental enhancement to the waterways, safe and effective portage opportunities for non-motorized recreational watercraft, and small motorized boats to access the Lake Worth Lagoon; and

WHEREAS, the current President of the Palm Beach County (PBC) League of Cities has created an initiative called Ocean to Lake Trails, focused on enhancement of the land and water trail system from the Ocean to the Lake Okeechobee Trail System; and

WHEREAS, the PBC League of Cities Ocean to Lake Trails Committee has identified the Boat Lift and the associated improvements to the ICW and the C-51 as vital to that Ocean to Lake Trails initiative; and

WHEREAS, the Palm Beach County League of Cities recognizes a significant environmental resource in the canals and lakes that must be protected and improved; and

WHEREAS, the Palm Beach County League of Cities supports improvements to the C51 Canal that would enhance the recreational uses of the Lake Worth Lagoon, ICW, C51 Canal, and the Chain of Lakes and provide for new economic opportunities and job creation; and

WHEREAS, Palm Beach County Commissioner, Shelley Vana, hosted a regional visioning session, where redevelopment was the number one priority for this area of Palm Beach County; and

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF DIRECTORS OF THE PALM BEACH COUNTY LEAGUE OF CITIES, INC.:

SECTION 1: **The Palm Beach County League of Cities fully acknowledges and supports the following:**

A. Recreational opportunities, economic development and environmental enhancement which occur within the Chain of Lakes Blueway Trail Project which are beneficial to the regional area and ultimately to all of Palm Beach County; and
B. The efforts of Palm Beach County, Lake Clarke Shores, Greenacres, Palm Springs, West Palm Beach, Boynton Beach, Cloud Lake, and Glen Ridge to proceed with improvements to the chain of lakes, the Ocean to Lake Trails initiative and development of a boat lift at the C51 canal and the S155 control structure.

SECTION 2: The Board hereby requests that this resolution be sent directly to the Governor of Florida, and members of the Palm Beach County Legislative Delegation.

SECTION 3: This resolution shall take effect immediately upon adoption by the Board of Directors of the Palm Beach County League of Cities, Inc.

PASSED AND ADOPTED this 27th day of January, 2016.

BOARD OF DIRECTORS OF
THE PALM BEACH COUNTY
LEAGUE OF CITIES, INC.

Dawn Pardo, President
(SEAL)

ATTEST:

Mo Thornton, Secretary/Treasurer

RESOLUTION 2015-

A RESOLUTION OF THE [GOVERNING BODY] OF THE [MUNICIPALITY NAME], FLORIDA SUPPORTING AND ENCOURAGING EFFORTS BY THE TOWN OF LAKE CLARKE SHORES AND NEIGHBORING MUNICIPALITIES TO PROCEED WITH IMPROVEMENTS TO THE CHAIN OF LAKES, THE OCEAN TO TRAILS INITIATIVE AND DEVELOPMENT OF A BOAT LIFT AT THE C51 CANAL S155 CONTROL STRUCTURE; PROVIDING AN EFFECTIVE DATE; AND FOR OTHER PURPOSES

WHEREAS, Section 163.01, Florida Statutes, known as the "Florida Interlocal Cooperation Act of 1969," authorizes local governments to make the most efficient use of their powers by enabling them to cooperate with other localities on a basis of mutual advantage and thereby to provide services and facilities that will harmonize geographic, economic, population and other factors influencing the needs and development of local communities; and

WHEREAS, the desire of our sister cities to develop recreational opportunities, encourage economic development, and create new jobs within their regional area while enhancing the environmental attributes of their communities should be commended; and

WHEREAS, the Treasure Coast Regional Planning Council (TCRPC) created ***The Intracoastal Waterway Plan for Palm Beach County: Charting a Course for the Future*** (’09 Charrette) for the Palm Beach County Metropolitan Planning Organization (MPO) published in January 2009; and

WHEREAS, the '09 Charrette participants identified six core public themes including increasing public access to the Intracoastal Waterway (ICW), protecting natural resources, expanding all forms of water based transportation, and promoting sustainable economics; and

WHEREAS, the MPO requested the ’09 Charrette be updated by TCRPC and their report was published in January 2015 which documented that a connection to the ICW at the S155 Control Structure on the C51 Canal would have significant economic and recreational benefit; and

WHEREAS, the C51 Canal is connected to a 26 mile chain of freshwater lakes (Pine Lake, Lake Clarke, Lake Osborne, Lake Eden and Lake Ida) and navigable canals within our regional area; and

WHEREAS, the [Municipality Name] supports improvements to the C51 Canal that would enhance the recreational uses of the ICW, C51 Canal, and the Chain of Lakes and provide for new economic opportunities and job creation; and

WHEREAS, a connection between the ICW and the C51 Canal at the S155 Control Structure would provide for economic development, job creation and recreational enhancement. The connection has been referred to as the "Boat Lift" and is estimated to provide significant economic benefit to the regional area; and

WHEREAS, the [Municipality Name] recognizes a significant environmental resource in the canals and lakes that must be protected and improved; and

WHEREAS, the Boat Lift provides for environmental enhancement to the waterways, safe and effective portage opportunities for non-motorized recreational watercraft, and small motorized boats to access the ICW; and

WHEREAS, the current President of the Palm Beach County (PBC) League of Cities has created an initiative called Ocean to Lake Trails focused on enhancement of the land and water trail system from the Ocean to the Lake Okeechobee Trail System; and

WHEREAS, the Ocean to Lake Trails Committee of the PBC League of Cities has identified the Boat Lift and the associated improvements to the ICW and the C-51 as vital to that Ocean to Lake Trails initiative; and

WHEREAS, Palm Beach County Commissioner, Shelley Vana, hosted a regional visioning session, where redevelopment was the number one priority for this area of Palm Beach County; and

NOW, THEREFORE, BE IT RESOLVED BY THE [GOVERNING BODY] OF THE MUNICIPALITY NAME], FLORIDA:

SECTION 1: **The [Governing Body] fully acknowledges and supports the following:**

A. Recreational opportunities, economic development and environmental enhancement which occur within the partner municipalities are beneficial to the regional area and ultimately to the [Municipality Name]; and

B. The efforts of the partner municipalities to proceed with improvements to the chain of lakes, the Ocean to Lake Trails initiative and development of a boat lift at the C51 canal and the S155 control structure.

SECTION 3: This Resolution shall take effect immediately upon passage.

PASSED AND ADOPTED this _____ day of _____.

[MUNICIPALITY NAME], FLORIDA

		FOR	AGAINST
BY:	_____	_____	_____
	_____	_____	_____
	_____	_____	_____
	_____	_____	_____

ATTEST:

By: _____

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-102 - Assess the cost of nuisance abatement on properties within the City of Boynton Beach.

EXPLANATION OF REQUEST:
In accordance with the Municipal Lien Procedure on file in the City of Boynton Beach, the attached list contains the addresses of properties cited by Community Standards for nuisances abated by a City-contracted vendor. Finance sent an invoice to each property owner. There was no response within the required 30-day period. Copies of the invoices were then forwarded to the City Clerk's Office for continuation of the procedure. The property owners were again issued a copy of the invoice and a letter which offered an opportunity to pay the invoice within an additional 30-day period. The attached list contains the names of the property owners who have still not responded to our correspondence.

At this point in the procedure, authorization is requested to record liens against these properties in the public records of Palm Beach County within 30 days of adoption of the Resolution. Prior to sending the Resolution to the County for recording, the City Clerk will send another letter to each property owner notifying them they have another 30 days to pay the invoice before the Resolution is sent for recording. An additional administrative fee of $30 will be added to the assessment when the Resolution is sent to the County for recording.

Thirty days after the Resolution is recorded, the property owners will receive, by certified mail, a copy of the Resolution and another letter stating the unpaid balance will accrue interest at a rate of 8% per annum.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT:
This process allows us to place liens on the properties in order to reimburse the City for the services that were provided when the nuisances were abated.

ALTERNATIVES:
The alternative would be to not place liens on the properties and not collect for the service provided.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Resolution	Resolution assessing the cost of nuisance abatement
🗋	Exhibit	Exhibit A

RESOLUTION NO. R17-

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA ASSESSING THE COSTS OF ABATEMENT OF CERTAIN NUISANCES AGAINST THE OWNERS OF THE PROPERTIES INVOLVED; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, a contract vendor was requested by Code Compliance to mow the lots, remove vegetation and board up structures on the properties, described in Exhibit "A"; and

WHEREAS, the owners of the parcel(s) of property hereinafter described were invoiced by the Finance Department in an effort to recoup these costs with no response; and

WHEREAS, said nuisance was not abated as required; and,

WHEREAS, all of the property owners listed in the attached Exhibit "A" were sent letters offering them an opportunity to remit within 30 days in order to avoid incurring a lien on their property; and

WHEREAS, the City Manager or her authorized representative has made a report of costs actually incurred by the City and abatement of said nuisance as to the property(s) involved, which is described in Exhibit "A" attached to this Resolution; and

WHEREAS, upon passage of this Resolution, the property owners will be furnished with a copy of this Resolution, and given one more opportunity to remit all costs associated with the abatement in full within 30 days of the passage of the Resolution, before transmittal to the County for recordation of Liens; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA AS FOLLOWS:

Section 1: Each Whereas clause set forth above is true and correct and incorporated herein by this reference.

Section 2: The amount of costs incurred by the City and the abatement of the above-described nuisance as to the parcels of land, owned and indicated to wit:

SEE ATTACHED EXHIBIT "A"

Subject amount is hereby assessed as liens against said parcels of land as indicated, plus an additional administrative charge of $30.00 for each Lien. Liens shall be of equal dignity with the taxes there from for the year 2017, and shall be enforced and collected in like manner pursuant to applicable provisions of law. In the event collection proceedings are necessary, the property owner shall pay all costs of the proceedings, including reasonable attorneys fees.

Section 3. This Resolution shall become effective immediately upon passage.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

EXHIBIT A

First Name	Last Name	Company Name	Address Line 1	Address Line 2	case	PCN	Invoice	Original Invoice Amount	Amount Owed
James	Johnson, Jr.		533 NW 13th Ave	Boynton Beach, FL 33435	17-585	08-43-45-21-07-004-1320	41398	$588.09	$ 618.09
Anthony Q. Harris	Joseph J. Smith		1624 W 29th St	Jacksonville, FL 32209	17-468	08-43-45-21-20-010-0030	41226	$788.09	$ 818.09
		Zevel LLC	4828 Loop Central Dr	Houston, TX 77081-2212	17-124	08-43-45-21-14-100-2921	41188	$538.09	$ 568.09
								TOTAL:	$ 2,004.27

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
PROPOSED RESOLUTION NO. R17-103 - Approve Amendment to Agreement for Special Magistrate Services to increase the Special Magistrate's hourly rate.

EXPLANATION OF REQUEST:
On August 6, 2013, the City Commission appointed James D. Stokes to serve as the Special Magistrate for Local Red Light Camera hearings and approved the City Manager to sign an Agreement for Special Magistrate Services. The Special Magistrate has requested that his hourly rate be increased from $140 per hour to $200 per hour. City Staff recommends that the rate be increased to $200 per hour as requested.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT: Budgeted
Funds are budgeted for magistrate costs in the Traffic Safety fund under account 103-2110-521-49-17. Based on previous years expenses, the increase in hourly rate would cost approximately an additional $2,500 per year.

Previous years expenses:

FY 16/17	$6,188.00
FY 15/16	$7,910.00
FY 14/15	$ 840.00

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Resolution	Resolution Approving Amendment to Agreement for Special Magistrate Services to increase the Special Magistrate's hourly rate
Attachment	Original Contract and Agenda item for Red Light Camera Special Magistrate
Attachment	James Stokes most recent invoices

RESOLUTION R17-

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, APPROVING AN AMENDMENT TO AGREEMENT FOR SPECIAL MAGISTRATE SERVICES TO INCREASE THE SPECIAL MAGISTRATE'S HOURLY RATE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, on August 6, 2013, the City Commission appointed James D. Stokes to serve as the Special Magistrate for Local Red Light Camera hearings and approved the City Manager to sign an Agreement for Special Magistrate services; and

WHEREAS, the Special Magistrate has requested that his hourly rate be increased from $140 to $200 per hour; and

WHEREAS, the City Commission of the City of Boynton Beach upon recommendation of staff, deems it to be in the best interest of the citizens of the City of Boynton Beach to approve an Amendment to Agreement for Special Magistrate to increase the Special Magistrate's hourly rate.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof.

Section 2. The City Commission does hereby approve an Amendment to Agreement for Special Magistrate to increase the Special Magistrate's hourly rate .

Section 3. That this Resolution shall become effective immediately upon passage.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: August 6, 2013

NATURE OF AGENDA ITEM	☐	OPENINGS	☐	PUBLIC HEARING
	☐	OTHER	☐	CITY MANAGER'S REPORT
	☐	ANNOUNCEMENTS/PRESENTATIONS	☐	UNFINISHED BUSINESS
	☐	ADMINISTRATIVE	☐	NEW BUSINESS
	☒	CONSENT AGENDA	☐	LEGAL
	☐	BIDS AND PURCHASES OVER $100,000	☐	FUTURE AGENDA ITEMS
	☐	CODE COMPLIANCE AND LEGAL SETTLEMENTS		

REQUESTED ACTION BY CITY COMMISSION: PROPOSED RESOLUTION NO. 13-075 - Authorize the City Manager to enter into agreements with Jon D. Gurney, P.A. and James D. Stokes to provide Special Magistrate services for the local hearings of the Red Light Camera violations.

EXPLANATION OF REQUEST: The City Commission approved Ordinance No. 13-019 on June 18, 2013 establishing the City's local hearing process for Red Light Camera citations. As part of the local process the City needs to appoint at least one (1) Special Magistrate to consider appeals of these citations. The Ordinance also provided for the qualifications of the Special Magistrate. The City received inquiries from three (3) attorneys expressing interest in serving in this capacity. After reviewing the information provided from the attorneys the City decided to extend an offer to two (2) attorneys to serve as Special Magistrates for the City.

The City intends to hold the hearings weekly in the Commission Chambers and have the Special Magistrates rotate on a monthly basis and if possible cover for each other in the event of a scheduling conflict. The intent is to have the hearings on the same day each week to start, with the possibility of adjusting the schedule based on caseload. The City would provide the necessary equipment and background documents for the Special Magistrates to conduct the hearings.

The attached agreements contain the following conditions for each Special Magistrate:

- Compensation of $140/hour with no additional charge for mileage, travel time or incidentals;
- Two (2) hour minimum on hearing session days;
- City will compensate for actual time spent for any necessary training for the ATS system or pre hearing preparation

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? Entering into these agreements for Special Magistrate services will provide a necessary component for the City to conduct local hearings for Red Light Camera citations as outlined in Ordinance No. 13-019 that was approved by the Commission on June 18, 2013.

FISCAL IMPACT: The estimated annual costs for these services were part of developing the Administrative Fine of $85.00 per violation that was previously approved by City Commission to recover the costs of the City holding these hearings as allowed by the legislation that went into effect as of July 1, 2013.

ALTERNATIVES: Not to enter into these agreements and either do a formal bid process or not hold the local hearings and cease the red light camera program.

RESOLUTION NO. R13-075

A RESOLUTION OF THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH APPOINTING JAMES D. STOKES, TO SERVE AS SPECIAL MAGISTRATE FOR LOCAL RED LIGHT CAMERA HEARINGS; AUTHORIZING THE CITY MANAGER TO ENTER INTO AN AGREEMENT FOR SPECIAL MAGISTRATE SERVICES; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City Commission has adopted Ordinance No. 13-019 establishing a Special Magistrate to preside over local red light camera hearings; and

WHEREAS, James D. Stokes, meets the requirements set forth in the City of Boynton Beach Code to serve as Special Magistrate to preside over local red light camera hearings as needed; and

WHEREAS, James D. Stokes, does not currently prosecute red light camera violations and do not intend to prosecute such violations in the foreseeable future; and

WHEREAS, the City Commission of the City of Boynton Beach, Florida deems it to be in the best interests of the citizens and residents of the City of Boynton Beach to appoint James D. Stokes, to serve as Special Magistrate and to authorize the City Manager to enter into an Agreement for Special Magistrate Services with James D. Stokes.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1: The foregoing "WHEREAS" clauses are hereby ratified and confirmed as being true and correct, and are incorporated herein by this reference.

Section 2: That the City Commission of the City of Boynton Beach, Florida hereby appoints James D. Stokes, to serve as Special Magistrate and authorizes the City Manager to enter into an Agreement for Special Magistrate Services with James D. Stokes, a copy of which is attached hereto as Exhibit "A".

Section 3: This resolution shall become effective upon its passage and adoption by the City Commission.

PASSED AND ADOPTED this 6 **day of** August **, 2013.**

CITY OF BOYNTON BEACH

Mayor – Jerry Taylor

Vice Mayor – Woodrow L. Hay

Commissioner – David T. Merker

Commissioner – Michael M. Fitzpatrick

Commissioner – Joe Casello

ATTEST:

Janet M. Prainito, MMC
City Clerk

(Corporate Seal)

AGREEMENT FOR SPECIAL MAGISTRATE SERVICES

THIS AGREEMENT, made and entered into the 3 day of September 2013 by and between:

CITY OF BOYNTON BEACH, a Florida municipal corporation, having the address, 100 E. Boynton Beach Blvd, Boynton Beach,, FL 33425 (hereinafter referred to as "CITY"),

AND

James D. Stokes, a sole practitioner having the business address 100 Rialto Place, Suite 700, Melbourne, FL 32901 (hereinafter referred to as "SPECIAL MAGISTRATE").

WITNESSETH:

WHEREAS, the City of Boynton Beach ("City") has home rule authority pursuant to Article VII, Section 2 of the Florida Constitution and Chapter 166, Florida Statutes, to provide for enforcement of violations of the City's Code of Ordinances and other violations of law through the use of Special Magistrates; and,

WHEREAS, in 2008, the City Commission adopted Ordinance No. 2008-034, which authorized the use of unmanned traffic infraction detectors (red light cameras) to enforce red light violations within the City; and,

WHEREAS, In 2010, the Florida Legislature adopted the "Mark Wandall Traffic Safety Program," §316.0083, Florida Statutes (the "State Act"), which, among other things, expressly preempted to the State the subject matter of using unmanned cameras/monitoring devices, referred to as traffic infraction detectors, in the State Act as defined therein, to enforce violations of red light indications on traffic control devices as of July 1, 2010; and,

WHEREAS, on July 20, 2010, the City Commission adopted Ordinance 2010-015, to conform the City's Code of Ordinances to the State Act; and,

WHEREAS, during the 2013 Legislative Session, the Florida Legislature passed legislation, Chapter 2013-160, Laws of Florida, which provides for municipalities to conduct local hearings for persons that receive Notices of Violation (NOV) and request a hearing to contest such NOV; and,

WHEREAS, at its meeting of June 18, 2013, the City Commission adopted Ordinance 2013-019 to conform the City's red light camera program to the new State Act; and

WHEREAS, at its meeting of June 18, 2013, the City Commission, pursuant to Ordinance 2013-019, authorized the City Administration to take all steps necessary to implement

the red light camera Notice of Violation hearings required by state law, including the hiring of Special Magistrates; and

WHEREAS, James D. Stokes (hereinafter referred to as the "SPECIAL MAGISTRATE") is qualified to serve a Special Magistrate; and

WHEREAS, the SPECIAL MAGISTRATE is not a charter officer of the City of Boynton Beach; and

WHEREAS, the SPECIAL MAGISTRATE is not an officer pursuant to Article II, Section 5(a) of the Florida Constitution; and

WHEREAS, the SPECIAL MAGISTRATE serves at the pleasure and at the will of the City Commission of CITY; and

WHEREAS, CITY and SPECIAL MAGISTRATE wish to enter into this Agreement in order to set out the terms and conditions of employment related to this appointment;

NOW THEREFORE, in consideration of the mutual terms and conditions, promises, covenants and payments hereinafter set forth, CITY and James D. Stokes, agree as follows:

Section 1. Recitals. The recitals and findings set forth above are hereby adopted by reference and incorporated herein as if fully set forth in this section.

Section 2. Services.

A. SPECIAL MAGISTRATE agrees to provide Special Magistrate services by adjudicating red light camera cases that may be assigned to SPECIAL MAGISTRATE by CITY. The dates and times of the Special Magistrate hearings shall be established by the CITY and may be amended from time to time. SPECIAL MAGISTRATE understands that Special Magistrates will be utilized for hearings on a rotational basis.

SPECIAL MAGISTRATE is authorized to hear any and all red light camera matters as specified by Florida law and authorized by the City Code.

B. SPECIAL MAGISTRATE agrees that at the conclusion of each hearing, a written order, which shall include findings of fact and conclusions of law, shall be promptly prepared and executed by SPECIAL MAGISTRATE, either electronically or manually, in the manner specified by the CITY and in compliance with the State law. The CITY shall be responsible for furnishing a copy of the order to the applicable parties.

C. SPECIAL MAGISTRATE is an independent contractor under this Agreement. Services provided by SPECIAL MAGISTRATE shall not be as an officer or an employee of the CITY.

D. SPECIAL MAGISTRATE is a member in good standing of the Florida Bar engaged in the private practice of law.

E. SPECIAL MAGISTRATE has no existing client relationship which would pose a conflict of interest to his service as a Special Magistrate for CITY. SPECIAL MAGISTRATE does not currently prosecute red light camera violations in any form and does not intend to prosecute such violations in the foreseeable future. Should SPECIAL MAGISTRATE commence prosecution of red light camera violation cases, SPECIAL MAGISTRATE shall not be permitted to adjudicate the CITY'S red light camera cases, and this agreement shall terminate immediately without any further action required by the CITY.

Section 4. Payment.

A. CITY agrees to pay SPECIAL MAGISTRATE One Hundred Forty Dollars and 00/100 ($140.00) per hour or fractional part thereof for time spent by the SPECIAL MAGISTRATE in preparation and research for special Magistrate hearings, for attendance at such hearings, and if required, for drafting appropriate orders and documents which result from such hearings.

B. SPECIAL MAGISTRATE agrees to provide CITY with a monthly invoice outlining the services provided and time billed as SPECIAL MAGISTRATE under the conditions set forth in this agreement. Such invoice shall be submitted to: City of Boynton Beach, Attention: Accounts Payable, 100 E. Boynton Beach Blvd, Boynton Beach, FL 33425.

C. Payment shall be made monthly to the SPECIAL MAGISTRATE at:

James D. Stokes
100 Rialto Place, Suite 700
Melbourne, FL 32901

Section 5. Term of Agreement.

A. This Agreement shall be effective upon the approval of the City Commission and shall be effective until terminated by the CITY or as otherwise provided herein. This Agreement with the SPECIAL MAGISTRATE may be terminated at any time by the City Commission and without cause.

B. The Agreement may be terminated by SPECIAL MAGISTRATE upon thirty (30) calendar days' written notice to the CITY.

Section 6. Amendments; Assignments.

A. No modification, amendment or alteration in the terms of conditions of this Agreement shall be effective unless contained in a written document executed with the same formality and of equal dignity herewith.

B. SPECIAL MAGISTRATE agrees that the services provided in this Agreement are personal in nature and may not be assigned or transferred to any other party without the prior written consent of the CITY.

THE REST OF THIS PAGE HAS BEEN INTENTIONALLY LEFT BLANK.

IN WITNESS WHEREOF, the CITY OF BOYNTON BEACH AND SPECIAL MAGISTRATE have caused these present to be executed in their respective names by the proper officials the day and year first above written.

CITY

ATTEST:

Janet M. Prainito
Janet Prainito, City Clerk

CITY OF BOYNTON BEACH, FLORIDA:

Lori LaVerriere
BY: LORI LAVERRIERE, City Manager

APPROVED AS TO FORM:

OFFICE OF THE CITY ATTORNEY

SPECIAL MAGISTRATE

James D. Stokes

State of Florida
County of PalmBeach

The foregoing instrument was acknowledged before me, the undersigned Notary Public in and for the State of Florida, on this, the 19 day of August, 2013 by (Magistrate), Esquire.

WITNESS my hand
and official seal

Tia Renee DeBard
Notary Public, State of

TIA RENEE DOBARD
MY COMMISSION # DD 961782
EXPIRES: February 15, 2014
Bonded Thru Notary Public Underwriters

Tia Renee Dobard
Printed, typed or stamped name of Notary Public
exactly as commissioned

Personally known to me, or
Produced identification:
Florida Driver License
(type of identification produced)

James D. Stokes
Abitrator | Mediator | Special Magistrate
Attorney at Law

INVOICE

May 5, 2017

Captain Matt Zeller
Boynton Beach Police Department
100 East Boynton Beach Blvd.
Boynton Beach, Florida 33425

Date	*Item*	*Time*	*Amount*
04.13.2017	Red Light Adjudication Hearing.	2.6	$ 364.00
04.27.2017	Red Light Adjudication Hearing.	2.7	$ 378.00
	Total for March:		$742.00
	Total Due:		$ 742.00

Verified: [signature]

Checks can be made payable to:

James D. Stokes
100 Rialto Place, Suite 700
Melbourne, Florida 32901

tel. 321.704.0046
email: jstokes1627@gmail.com

FEIN: 45-4503014

Notes:

Re: Special Magistrate service as approved by Resolution No. 13-075 for Red Light Camera hearings.

APMagusti
6.6.17
P.O.# 170209

THE FLORIDA BAR BOARD CERTIFIED

Board Certified Specialist | *Labor & Employment Law*
Board Certified Specialist | *City, County & Local Government Law*

James D. Stokes
Arbitrator | Mediator | Special Magistrate
Attorney at Law

INVOICE

June 2, 2017

Captain Matt Zeller
Boynton Beach Police Department
100 East Boynton Beach Blvd.
Boynton Beach, Florida 33425

Date	Item	Time	Amount
05.11.2017	Red Light Adjudication Hearing.	2.8	$ 392.00
05.25.2017	Red Light Adjudication Hearing.	2.2	$ 308.00
	Total for March:		*$700.00*
	Total Due:		*$ 700.00*

Verified: [signature]

Checks can be made payable to:

James D. Stokes
100 Rialto Place, Suite 700
Melbourne, Florida 32901

tel. 321.704.0046
email: jstokes1627@gmail.com

FEIN: 45-4503014

Notes:

Re: Special Magistrate service as approved by Resolution No. 13-075 for Red Light Camera hearings.

[signature]
6-6-17
P.O. #170209

THE FLORIDA BAR BOARD CERTIFIED

Board Certified Specialist | *Labor & Employment Law*
Board Certified Specialist | *City, County & Local Government Law*

James D. Stokes
Abitrator | Mediator | Special Magistrate
Attorney at Law

INVOICE

July 17, 2017

Captain Matt Zeller
Boynton Beach Police Department
100 East Boynton Beach Blvd.
Boynton Beach, Florida 33425

Date	*Item*	*Time*	*Amount*
06.08.2017	Red Light Adjudication Hearing (June 17).	2.4	$ 336.00
07.13.2017	Red Light Adjudication Hearing (July 2017).	2.7	$ 378.00
	Total Due:		*$714 .00*

Verified: [signature]

Checks can be made payable to:

James D. Stokes
100 Rialto Place, Suite 700
Melbourne, Florida 32901

tel. 321.704.0046
email: jstokes1627@gmail.com

FEIN: 45-4503014

Notes:

Re: Special Magistrate service as approved by Resolution No. 13-075 for Red Light Camera hearings.

Flora 7/19/17
Po# 170209

THE FLORIDA BAR BOARD CERTIFIED
Board Certified Specialist | *Labor & Employment Law*
Board Certified Specialist | *City, County & Local Government Law*

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-104 - Approve and authorize the City Manager to sign a proposal/contract with M&M Asphalt Maintenance Inc., d/b/a All County Paving of Delray Beach, FL, in the amount of $76,815.61, plus a 10% contingency in the amount of $7,700 for a total cost of $84,515.61 for the purpose of restriping several of the City's streets utilizing the City of West Palm Beach's Paving Contract #16393 pricing, terms and conditions.

EXPLANATION OF REQUEST:
The finance department has confirmed with the City of West Palm Beach and the contractor that we are able to utilize this contract. The Finance Department also has the complete City of West Palm Beach Contract on file. The City of West Palm Beach's competitive bid process satisfies the City of Boynton Beach's competitive bid requirements.

Over the past several years, City staff and elected officials have received a growing number of complaints from the residents and visitors regarding the faded or missing pavement markings. As such, staff proposes to reapply the thermoplastic pavement markings. The proposed contract with M&M Asphalt Maintenance Inc. is piggy backed upon the City of West Palm Beach General Roadway and Miscellaneous Construction Contract #16393.

The useful life of thermoplastic stripes is about 6-8 years. As pavement marking age, their reflective qualities deteriorate due to loss of adhesion with the pavement and loosening and detaching of the glass beads embedded in the markings. The degradation process is accelerated by extreme weather conditions and vehicle off-tracking (where vehicle tires travel directly on the striped lines). In our climate, the marking material damage is caused by expansion and contraction of the marking and pavement at different rates, which results from extreme temperature fluctuations. Also breakdown of the chemical bond and resins and pigment components of the markings have been attributed to ultraviolet rays.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
Restriping will provide pavement markings for a minimum of 6 years.

FISCAL IMPACT: Budgeted
This project will be funded by the sale tax dollars. The proposed construction cost, plus contingency is $84,515.61 and shall be funded from the Transportation/Roadway component of the City's Capital Improvement Plan (Project Number: CP0266, and Account Number Fund-Location–Exp: 302-4905-580.63-08)

ALTERNATIVES:
Defer all the striping to a future year (not recommended). The use of paint is not allowed by code.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Resolution	Resolution approving proposal with M & M Asphalt for restriping City streets
Attachment	Gateway Blvd Pavement Marking Proposal
Attachment	Piggy back proposal used as basis
Attachment	City of WPB award notification

RESOLUTION NO. R17-

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, AUTHORIZING THE CITY MANAGER TO SIGN THE PROPOSAL FROM M&M ASPHALT MAINTENANCE, INC., D/B/A ALL COUNTY PAVING OF DELRAY BEACH, FL FOR THE PURPOSE OF RESTRIPING SEVERAL OF THE CITY'S STREETS UTILIZING THE CITY OF WEST PALM BEACH'S PAVING CONTRACT #16393 PRICING, TERMS AND CONDITIONS IN THE AMOUNT OF $76,815.61, PLUS A 10% CONTINGENCY IN THE AMOUNT OF $7,700 FOR A TOTAL COST OF $84,515.61; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, over the past several years, City staff and elected officials have received a growing number of complaints from the commercial businesses and the residents that frequent those businesses regarding the faded or missing pavement markings; and

WHEREAS, the proposal from M&M Asphalt Maintenance, Inc., is a piggy-back of the City of West Palm Beach General and Miscellaneous Construction Contract #16393 and it has been confirmed with the City of West Palm Beach and the contractor that we are able to piggy-back their contract; and

WHEREAS, upon recommendation of staff, the City Commission of the City of Boynton Beach does hereby approve the piggy-backing of the City of West Palm Beach Contract #16393 pricing, terms and conditions with M&M Asphalt Maintenance, Inc., d/b/a All County Paving of Delray Beach, FL in the amount of $76,815.61, plus a 10% contingency in the amount of $7,700 for a total cost of $84,515.61 for the purpose of restriping several of the City's streets.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed

as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof.

Section 2. The City Commission of the City of Boynton Beach, Florida, hereby approves the piggy-backing of the City of West Palm Beach Contract #16393 pricing, terms and conditions with M&M Asphalt Maintenance, Inc., d/b/a All County Paving of Delray Beach, FL in the amount of $76,815.61, plus a 10% contingency in the amount of $7,700 for a total cost of $84,515.61 for the purpose of restriping several of the City's streets.

Section 3. That the City Manager is hereby authorized to sign the proposal with M&M Asphalt Maintenance, Inc., d/b/a All County Paving of Delray Beach, FL, a copy of which is attached hereto.

Section 4. That this Resolution shall become effective immediately.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____

ATTEST: VOTE _____

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

Licensed contractor #U-21491

CHANGE ORDER

October 9, 2017

Change Order #: 001
Job #: 01015488J

Customer Name/Address:
Attn: Gary Dunmyer
City of Boynton Beach
100 E Boynton Beach Blvd
Boynton Beach, FL 33425
T. 561.742-6231
E. DunmyerG@bbfl.us

Property Location:
Gateway Blvd.
East Crosswalk at Congress Avenue to West Crosswalk at High Ridge Road

As per the City of West Palm Beach Annual Contract:

Item No.	Item Description	Unit	Quantity	Unit Cost	Cost
1	Mobilization	LS	1	$ 3,000.00	$3,000.00
2	Maintenance of Traffic	LS	1	$ 5,500.00	$5,500.00
61	6" Solid White Thermoplastic Striping	LF	22,643	$ 0.88	$19,925.84
62	6" Skip White Thermoplastic Striping	LF	7,346	$ 0.88	$6,464.48
63	6" Solid Yellow Thermoplastic Striping	LF	13,980	$ 0.88	$12,302.40
64	6" Skip Yellow Thermoplastic Striping	LF	638	$ 0.88	$561.44
66	12" Solid White Thermoplastic Striping	LF	5,949	$ 1.65	$9,815.85
67	18" Solid White Thermoplastic Striping	LF	428	$ 2.20	$941.60
68	18" Solid Yellow Thermoplastic Striping	LF	118	$ 2.20	$259.60
69	24" Solid White Thermoplastic Striping	LF	1,268	$ 3.30	$4,184.40
70	Special Pavement Message: ARROW (single and double) Thermoplastic	EA	71	$ 99.00	$7,029.00
71	Special Pavement Message: "SCHOOL" - 8' High	EA	11	$ 121.00	$1,331.00
78	Retro-Reflective Pavement Markers (RPMs) Y/Y	EA	350	$ 4.40	$1,540.00
78	Retro-Reflective Pavement Markers (RPMs) W/R	EA	900	$ 4.40	$3,960.00
				Total	**$76,815.61**

MEMO

RECEIVED
OCT 20 2015
City of West Palm Beach
Mayor's Office

WPB
WEST PALM BEACH
City Attorney

RECEIVED
OCT 22 2015
CITY OF WEST PALM BEACH
OFFICE OF THE CITY CLERK

To: **Jeri Muoio, Mayor**

From: Nancy D. Urcheck, Deputy City Attorney

Date: October 20, 2015

Matter No: **16393**

Dept. 420 Engineering Services

Re: **M&M Paving dba All County Paving: General Roadway; Misc Construction; GASB Rebid**

Transmitted herewith for your signature are original documents which have been reviewed and approved for legal sufficiency. Kindly forward the documents, along with this memo, to the City Clerk's Office.

To: **Office of the City Clerk**

The Mayor is authorized to execute the document in accordance with:

Y Procurement Code.
____ Commission Approval. Resolution No.
____ City Charter

Please take the actions indicated below with respect to these documents:

Y Attest to the execution of the Agreement by the Mayor.
Y Insert the date of execution beneath the Mayor's signature (if not already dated).

Estimated Record Retention Review:

___ _____
(5 years from estimated completion and final payment; service and general contracts)

X December 2030
(10 years from estimated completion and final payment for construction & CCNA contracts).

Please **retain one original** as a public record and forward the other original to:

Robin Hewitt, Engineering Services

bm

CITY'S ORIGINAL

City of West Palm Beach

CONSTRUCTION CONTRACT

FOR

ITB # 14-15-134

PROJECT # - VARIOUS

GENERAL ROADWAY AND MISCELLANEOUS CONSTRUCTION

CITY OF WEST PALM BEACH
PUBLIC WORKS DEPARTMENT
KHANH UYEN DANG, PE - SENIOR PROJECT ENGINEER
401 CLEMATIS STREET, 4TH FLOOR
WEST PALM BEACH, FL 33401
(561) 494-1040

City of West Palm Beach

CONSTRUCTION CONTRACT

Work Orders

Bid No. 14-15-134
Project: General Roadway and Miscellaneous Construction
Contract No. 16393

THIS CONTRACT is made and entered into by and between the **CITY OF WEST PALM BEACH**, a municipal corporation of the State of Florida whose address is 401 Clematis Street, West Palm Beach, Florida 33401 (the "Owner") and **M&M ASPHALT MAINTENANCE, INC., d/b/a ALL COUNTY PAVING,** a corporation of the State of Florida, whose principal address is 1180 SW 10TH Street, Delray Beach, Florida 33444 ("Contractor").

WHEREAS, the Owner caused to be prepared specification, drawings and other contract documents for certain work and issued an Invitation to Bid for the above-described project, which is incorporated into this Contract by this reference; and

WHEREAS, the Contractor submitted its Bid in response; and

WHEREAS, the Owner determined that the Contractor's Bid represents the best value to Owner and wishes to contract with Contractor under the terms and conditions contained in the Invitation to Bid;

NOW THEREFORE, in consideration of the promises and mutual covenants and obligations herein contained, and subject to the terms and conditions herein stated, the Owner and Contractor understand and agree as follows:

1. SCOPE OF WORK.

1.1 If issued a Work Order, the Contractor shall furnish all necessary labor, materials, equipment and supplies, and shall execute and complete, to the satisfaction of Owner and in accordance with the terms and conditions of this Contract all work described and shown in the applicable Work Order for small roadway and miscellaneous construction projects, in accordance with the technical specifications and drawings specified for such Work Order.

1.2 Owner will issue Work Orders on an as-needed basis. Each Work Order will be on Owner's form and detail the specific project scope of work, project schedule for completion and compensation. All terms and conditions of this Contract, the General Conditions and the Contract Documents will be applicable to each Work Order.

1.3 No work is authorized until a work order is fully executed by the Owner. Any amendment to a work order is not effective and not authorized until such amendment is fully executed by the Owner.

1.4 A comprehensive project shall not be broken into small related segments/projects in order to fall within the limitations of this Contract. Contractor shall not execute any such Work Order.

1.5 Work Orders shall be completed within the time indicated for each Work Order. Time is of the essence of each Work Order. Contractor shall proceed with the work and shall conform to the schedule for each Work Order. Work shall commence on the date indicated in the Notice to Proceed issued by Owner and be substantially complete and then fully complete in accordance with the Work

Order schedule and the General Conditions, with such extensions of time as are provided in the General Conditions.

1.6 No Work Order may be issued for work to be completed after the expiration of this Contract. The form of Owner's Work Order is attached to this Contract.

1.7 No work order(s) or minimum amount of work or compensation is guaranteed under this Contract.

2. PRICES. Contractor shall perform the work for the prices set forth on Contractor's Bid. If specific circumstances require additional work of materials not listed in Exhibit B, the parties shall negotiate a price which shall be detailed in the Work Order.

3. PAYMENT AND INVOICES. Payment for Work Orders shall be made in accordance with the General Conditions of this Contract. Contractor acknowledges that if a construction bond is required, payments under Work Order(s) shall not be made until consent of surety is received by Owner. Contractor shall submit individual invoices for each Work Order. Along with each invoice, Contractor will provide a copy of the Work Order, the appropriate completed Small Business participation form and any updated insurance documents (when applicable).

4. CONTRACT TERM.

4.1 Term of Contract. Subject to the termination rights of the Owner, this Contract shall have a term of three (3) years, commencing as of the date of execution by the Owner. The Owner shall execute this Contract last.

4.2 Renewal. At the sole option of the Owner, this Contract may be renewed for up to two additional twelve (12) month periods. Contract renewal will only be effective upon a written contract amendment executed by both parties. Renewal terms and conditions for this Contract shall be unchanged.

5. LIQUIDATED DAMAGES. The actual damages Owner and the public may suffer as a result of the failure to complete work under a Work Order within the scheduled time are not ascertainable at the time of this Contract. If said work under any Work Order is not substantially and then fully completed within the time established by the Work Order and the General Conditions, as may be adjusted, the Contractor shall be liable and hereby agrees to pay to the Owner as liquidated damages, and not as a penalty, a sum per calendar day for each and every day or part of a day thereafter that said work remains incomplete. Unless a Work Order specified otherwise, Contractor shall pay to Owner the sum of Two Hundred Dollars ($200) per calendar day as liquidated damages.

6. CONSTRUCTION BOND(S). If the estimated amount of any Work Order is $200,000 or more, then prior to the commencement of the work under such Work Order, Contractor shall record a public construction bond, in an amount not less than the total cost of such Work Order, on Owner approved forms, with the Clerk of the Court in the Public Records of Palm Beach County and provide a certified copy of the recorded bond(s) prior to commencing work and submittal of first invoice, in accordance with the General Conditions. The City shall be an obligee under such bond(s). The bond shall incorporate by reference the terms of the Contract Documents in their entirety.

7. SPECIAL TERMS.

8. SMALL BUSINESS PROGRAM.

8.1 Compliance. Article IX of Chapter 66 of the City of West Palm Beach Code of Ordinances relating to the Small Business Program is incorporated in this Contract by this reference. The Contractor agrees to comply in all respects with its commitment to use the certified small businesses identified in Contractor's Bid in the manner and proportions set forth in the Bid. In the event that it is impossible or impracticable to engage or procure materials from one or more of the identified certified small businesses, the Contractor shall so notify the City's Small Business Division promptly in writing and shall thereafter ensure that that firm or firms are duly replaced by other certified small businesses unless written approval to the contrary is granted by the City.

8.2 Records. The Contractor agrees to maintain in an orderly fashion all relevant records and information that document its compliance with the Small Business Program and the utilization of and payment to certified small businesses under this Contract; and shall make said records available to the City for inspection during reasonable business hours. Copies of all contracts between the Contractor and firms engaged by it in connection herewith shall be submitted to the City upon the City's request.

9. CONTRACTOR'S UNDERSTANDING. It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of the equipment and facilities needed preliminary to and during the prosecution of the work, and the general and local conditions. Execution of this Contract by the Contractor is a representation that the Contractor has visited the site, reviewed any design criteria furnished by Owner, become generally familiar with local conditions under which the Work is to be performed and correlated personal observations with requirements of the Contract Documents. Contractor deems both his inspection of the site and review of information furnished by Owner to be an adequate investigation. Contractor represents that the plans and specifications are consistent, practical, feasible and constructible within the scheduled construction time. Contractor affirmatively covenants that Contractor has observed no defects or discrepancies in the plans, specifications or site and that if during construction any discrepancies, defects, etc., are discovered by or made known to Contractor, Contractor shall immediately communicate same to the Owner.

10. ETHICS. Contractor acknowledges, agrees and commits that it shall comply with all applicable state and city rules and regulations.

11. CONTRACT DOCUMENTS. Contractor agrees to complete all work in accordance with the Contract Documents. The term "Contract" and or "Contract Documents" shall include all the terms and conditions and Project requirements contained in this Contract and the following documents, all of which taken together are incorporated herein and form the Contract Documents. For convenience sake, some of the documents may not be attached to this Contract, but the listed documents make up the Contract Documents, whether or not they are attached.

a. Each Work Order and all associated Documents
b. Special Terms
c. Contractor's Bid
d. Schedule of Bid Items
e. Substitution Sheet
f. Schedule of Subcontractors
g. Contractor License Verification Form
h. Affidavit of Prime Bidder

i. Drug Free Certification
j. Trench Safety Compliance Form,
k. Small Business – Subcontractors Listing
l. Small Business – Statement of Small Business Participation
m. Small Business – Letter of Intent
n. Contractor's Material Suppliers
o. Public Construction Bond and Related Power of Attorney and Surety Certificate
p. Insurance Certificates
q. General Conditions
r. Technical Specifications and Drawings
s. Invitation to Bid

This Contract shall be executed in two (2) original sets by Owner and Contractor. The Contract Documents are complementary, and wherever possible the provisions of the documents shall be construed in such manner as to avoid conflicts between provisions of the various documents.

IN WITNESS WHEREOF, the parties execute this Contract through their duly authorized representatives.

ATTEST:

By: _____
City Clerk

CITY ATTORNEY'S OFFICE
Approved as to form and legality
By: _____

CITY OF WEST PALM BEACH

By: _____
Geraldine Muoio, Mayor

Date: 10/22, 2015

ATTEST:

By: _____
Corporate Secretary

Print Name: Jeffrey Cohen

Contractor:

M&M ASPHALT MAINTENANCE, INC d/b/a ALL COUNTY PAVING

By: _____

Print Name: Kenneth Goldberg
Title: President

CITY OF WEST PALM BEACH
GENERAL ROADWAY CONSTRUCTION

Work Order No. _____

Contract No. 16393.

Contractor: M&M Asphalt Maintenance, Inc., d/b/a All County Paving

Project / Work Title: _____

1. **Work:** A detailed scope of work to be performed under this Work Order is attached as **Exhibit A**.

☐ *(check if applicable)* Technical specifications and drawings for the Project prepared by _____, dated _____, project number _____ (the "Contract Drawings") describe the work and are Contract Documents for this Work Order.

2. **Schedule:** Time is of the essence of this Work Order. The Contractor shall commence Work under this Work Order on the date indicated in the Notice to Proceed and fully complete said Work in accordance with **Exhibit ____**.

Substantial Completion shall be: _____ days from Notice to Proceed.

3. **Work Order Price**. The total amount to be paid to the Contractor by the Owner under this Work Order shall not exceed the sum of _____ ($_____) subject only to adjustment as provided in the General Conditions. Payments shall be made in accordance with the General Conditions. Contractor acknowledges that if a construction bond is required, final payment under this Work Order shall not be made until consent of surety is received by Owner. Contractor shall submit individual invoices for each Work Order. Along with each invoice, Contractor will provide a copy of the Work Order, the appropriate completed Small Business participation form and any updated insurance documents.

☐ (*check if applicable*) A detailed schedule of values is attached as **Exhibit ___.**

☐ (*check if applicable*) Contingency. Owner and Contractor agree the project budget shall include an Owner's contingency, which shall be utilized in accordance with the General Conditions, sum in the amount of $_____.

4. **Liquidated Damages.** In accordance with the Contract Documents, Contractor shall be liable and hereby agrees to pay to the Owner as liquidated damages for each and every calendar day or part of a day that the work remains incomplete, the sum of _____ ($_____.00) per calendar day.

5. **Construction Bond**. Unless indicated below, Contractor will record the required public construction bond, on Owner forms, with the Clerk of the Court in the Public Records of Palm Beach County and provide a certified copy of the recorded bond prior to commencing work under this Work Order and submittal of first invoice.

☐ (*check if applicable*) Construction bond not required and Work Order Price is less than $200,000.

6. **Special Terms**.

7. **Warranty**. Contractor agrees to correct all Work found by Owner to be defective or not in conformance with the Contract Documents for a period of one year from the final certificate of occupancy for the project (or if no certificate of occupancy to be issued, within one year of substantial completion) or for such longer periods of time as may be set forth with respect to specific warranties contained in the specifications.

8. **Small Business:** The small business commitment for this Work Order is _____%.
Contractor agrees to maintain in an orderly fashion all relevant records and information that evidence compliance with the Small Business program, including the utilization of, and payment to, certified small businesses under this Contract.

9. **Insurance:** Contractor hereby confirms that it maintains the insurance coverages required under the Contract and that certificates of insurance evidencing current policies are on file with the Owner as of the date of this Work Order.

10. **Contract Reference:** This Work Order shall be performed under the terms and conditions described within the master contract titled Master Contract for General Roadway and Miscellaneous Construction, dated _____, by and between the Owner of West Palm Beach and the Contractor named above ("Contract").

11. **Contract Documents**. Contractor agrees to complete all work in accordance with the Contract Documents. The following documents are Contract Documents with respect to this Work Order, regardless of whether they are attached:

- ☐ Technical Specifications and Construction Drawings and specifications identified above.
- ☐ Scope of Work
- ☐ Contractor's Bid and Schedule of Values
- ☐ Construction Schedule
- ☐ Special Terms
- ☐ Grant Requirements
- ☐ Substitution Sheet
- ☐ Contractor's Material Suppliers List
- ☐ Schedule of Subcontractors – including suppliers
- ☐ Trench Safety Compliance Form

☐ Small Business – Statement of Small Business Participation

☐ The following Contract Documents may be found at www.cityofwpb.org/engineering/.
Owner's Approved Materials List
Owner's Engineering Standard Details

CONTRACTOR:
M&M ASPHALT MAINTENANCE, INC.
d/b/a ALL COUNTY PAVING

By:_____

Print Name: _____

CITY OF WEST PALM BEACH

By: Geraldine Muoio
Geraldine Muoio, Mayor

Date: 10/22/2015

ATTEST: _____
City Clerk

OWNER ATTORNEY'S OFFICE
Approval as to form and legality
By:_____

SECTION 2 – SPECIAL TERMS

1. **Pre-Bid Conference**

A pre-bid conference is scheduled to provide potential bidders the opportunity to ask questions and receive clarification concerning the project and to emphasize safety factors, hazards, or potential interference of other projects. If a pre-bid conference is scheduled, attendance is strongly encouraged. If a site inspection is scheduled it will be the only opportunity to inspect the site and attendance is recommended as no individual appointments will be made.

Date: N/A
Time: N/A
Place: N/A

Please bring your copy of the Invitation to Bid to the pre-bid conference.

In accordance with the Americans with Disabilities Act, any person who believes he or she has a disability requiring the use of a special accommodation at either the scheduled site inspection, pre-bid conference or bid opening should contact the Procurement Division at 561-822-2100, at least five (5) days prior to the event to advise of his/her special requirements.

2. **Time of Completion and Liquidated Damages**. The work to be performed under this project shall commence on the date of Notice to Proceed. The work shall be substantially completed within **120 ONE HUNDRED TWENTY)** calendar days after the date of such notice, and fully completed within **180 (ONE HUNDRED EIGHTY)** calendar days, with such extensions of time as are provided for in the General Terms and Conditions. If said work is not substantially completed within the specified times, the Contractor shall be liable and hereby agrees to pay to the Owner as liquidated damages, and not as a penalty, the sum of **ONE THOUSAND TWO HUNDRED ($1,200)** per calendar day for each and every day or part of a day thereafter that said work remains incomplete.

3. **Permits and Fees**. In accordance with the Public Bid Disclosure Act, the Contractor will be required to make payment to the City of West Palm Beach for following permits or licenses, impact, inspection or other fees for this Project under the Contract: (F.S. 218.80)

(Permit)	(Fee/Amount or calculation)
Right-of-Way Permit	See City website (www.cityofwpb.org)
Parking Permit (Bagging of Meters)	See City website (www.cityofwpb.org)

Refer to City Website (wpb.org) for current permit fees.

4. **Licenses**. The Bidder will be required to have at the time of bid submittal, the following current license(s):

- State of Florida General Contractor's License or Paving Contractor's License

The Bidder will also be required, at the time of contract execution, to have a business tax receipt or certificate of registration in accordance with the following:

- No person, contractor or subcontractor may conduct business within the City without a business tax receipt or certificate of registration.

- A contractor who holds a valid countywide contractor's license, in addition to a county business tax receipt shall register with the City.

- Any person engaging in any business, occupation or profession within the City without a permanent business location or branch office in the City, but holding a valid and currently effective business tax receipt issued by the county or another incorporated municipality, shall be issued a certificate of registration upon registering with the business tax official.

5. **Small Business Participation**. In accordance with the Small Business Ordinance, the goal for Small Business participation under the contract resulting from this Invitation to Bid is **15%** of the total contract value.

6. **Construction Bond**. If required, please refer to General Condition 11.

Required **Yes** Not Required

7. **Insurance**. Please refer to General Condition 13 for insurance requirements, unless a modification to such requirements is listed below:

8. **Equal Benefits Ordinance**. Section 66-9 of the City's Code of Ordinances provides that, with limited exceptions, when contracting for goods, services or construction in an amount of $50,000 or more, with persons or businesses with five or more employees that also provide benefits to employees' spouses and dependents, the city shall contract only with those persons or businesses that provide equal benefits to employees' domestic partners. Each proposer shall submit an Equal Benefits certification with its proposal/bid

9. **Other Special Conditions**:

METHOD OF AWARD

The City intends to award to a Primary and Secondary Vendor(s). The award of the Primary and Secondary bidder will be determined in order of responsiveness, lowest price, and consideration of bidder's bid package with reference to conforming of bid, deviations (if any,) bidder's notes, materials proposed, along with bidder's qualifications, adequate organization, and personnel to ensure prompt and efficient performance of work to the City. If the Primary bidder is not able to supply the product/material in question, the City will contact the Secondary bidder accordingly.

WEST PALM BEACH
Purchasing Department

401 Clematis Street, 5th Floor
West Palm Beach, FL 33401
Telephone: (561) 822-2100
Telefax: (561) 822-1564

Addendum 1
ITB 14-15-134
July 17, 2015

General Roadway and Miscellaneous Construction

Each recipient of this Addendum acknowledges all of the provisions set forth in the Invitation to Bid (ITB) and agrees to be bound by the terms thereof.

This addendum shall modify, clarify, change or add information and become part of the above referenced ITB.

This Addendum shall provide the following information:

- Questions and Answers
- Revised schedule of bid items
- Revised technical specifications

The following documents are included with this addendum:

- Addendum 1 ITB 14-15-134
- Addendum 1 ITB 14-15-134 Revised Schedule of Bid Items

Questions and Answers

Question 1: Do contractors have to provide pricing on all items or can items be marked N/A if the the contractor is not providing a quote?

Answer
Pricing must be provided for all items.

Question 2: How will the City determine the low bid as there is no total of bid items?

Answer
This is a line item bid and the City's award decisions are based on the response or responses determined to be the best value.

Question 3: How will the award decision be made if not based on lowest bid?

Answer
Depending on the number of responses and bid prices multiple awards may be made. Awards will be based on the best value to the City as determined by review and analysis of the submitted prices for each line item.

Question 4: How will the City award work from the annual contract?

Answer
Work Orders will be issued for this contract.

Question 5: Please clarify line item 88 – Root Removal/Pruning. Is this one tree or all possible trees?

Answer
The line item refers to all trees.

Question 6: Please clarify line item 95 – Adjust Irrigation.

Answer
The line item is to adjust irrigation system in existing planter boxes or tree grates.

Question 7: Has the City reduced the required paperwork for work orders and pay requests? How many forms are required for work orders and pay requests for this project?

Answer
For the typical work order the pay request includes the following items:

1. Work order form
2. Scope of work
3. Fee proposal
4. Statement of small business participation form
5. Letter of intent
6. Schedule of contractors
7. Drug free certificate
8. Contractor's materials suppliers
9. Certificate of insurance
10. Bond

Per Section 10.5 in the GC and the subcontractor utilization report.

10.5 Initial Payment. Prior to submittal of its initial payment request, Contractor shall have submitted the following items to the Engineer/Architect and Owner:

1. Certified copies of the Performance and Payment bonds, or Public Construction bond, recorded in the public records.
2. List of subcontractors and suppliers
3. Project schedule
4. Schedule of values
5. All current certificates of insurance
6. Designation of Contractor's Project Manager

The following section is removed from the Technical Specifications

X ASPHALTIC CONCRETE PAVEMENT (BY THICKNESS AND TYPE S-1, S-3 OR SUPERPAVE)

1. Method of Measurement. The quantity to be paid for under this Section shall be per square yard (SY) of asphalt surface course and shall include all labor, material, and equipment required to construct the base layer and the final surface course as shown on the plan view and detail drawings. The unit prices shall include compensation for multiple mobilizations, labor, materials, and equipment required to construct the new asphalt concrete base and surface courses. The contract unit price shall also include other miscellaneous work required to complete the work in accordance with Florida Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition and the City of West Beach specifications. This unit price shall also include all necessary labor, materials, and equipment to adjust the valve boxes, manholes, rims, inlets, or other fixtures to final grade, transitions to existing pavement, milling existing asphalt at tie-ins, tack coating, compaction, rolling, brooming, sawcutting and any other work required to complete the work.

01025-39

2. Basis of Payment: Payment shall be at the Contract Unit Price per square yard of pavement installed to the limits shown on the plans or as directed by the Engineer in the field during construction.

Y. 10" LIMEROCK BASE

1. Method of Measurement. The quantity to be paid for under this Section shall be per square yard (SY) for limerock base installed and accepted. The Contract Unit Price shall include compensation for all labor, materials, and equipment required to construct the new lime rock base, including prime coat in accordance with the plans and specifications. The contract unit price shall also include other miscellaneous work required to correct all defective surfaces and deficient thicknesses and to complete the work in accordance with Florida Department of Transportation Standard Specifications for Road and Bridge Construction, latest edition and the City of West Beach specifications. The Contractor may, at no additional cost to the City of West Palm Beach, substitute 10- inch crushed concrete in lieu of limerock provided that the minimum LBR 100 is achieved.

2. Basis of Payment: Payment shall be at the Contract Unit Price per square yard of limerock base installed to the limits shown on the plans or as directed by the Engineer in the field during construction.

All of the other information remains the same.

Proposers must acknowledge receipt of this Addendum 1 in the space provided below. This Addendum forms an integral part of the ITB documents and therefore must be executed. *Failure to return this addendum with your proposal submittal may be cause for disqualification.*

Issued By: City of West Palm Beach
Procurement Division
July 17, 2015

Signed By: P. Armstrong
Patricia D. Armstrong
Sr. Purchasing Agent

PROPOSER: M & M Asphalt Maintenance, Inc
d/b/a All County Paving

Signed By: [signature]

Print Name: Kenneth Goldberg

Title: President

Date: 7-27-15

End of Addendum 1

Schedule of Bid Items

ITB 14-15-134
PROJECT TITLE: General Roadway and Miscellaneous Construction

Item No.	Item Description	Unit Cost	Units
	GENERAL		
1	Mobilization		LS
2	Maintenance of Traffic		LS
3	Bonding		LS
4	Insurance		LS
5	Construction Permits (Allowance)		AL
6	Vehicle Towing (Allowance)		AL
	ROADWAY		
7	Reclaimed Asphalt Base Course (Up to 10")		SY
8	Asphalt Emulsion for Reclamation (Asphalt Treated Base)		GAL
9	Saw Cut Existing Concrete/Pavement up to 12" deep		LF
10	Concrete Road Base Removal up to 12" deep		SY
11	Excavation, Removal & Disposal of excess material		CY
12	Mill Existing Asphalt (up to 2")		SY
13	Mill Existing Asphalt (2"-4")		SY
14	Asphalt & Base Removal, up to 24"		SY
15	12" Compacted, Stabilized Subbase		SY
16	FDOT Optional Base Group 4		Ton
17	FDOT Optional Base Group 6		Ton
18	FDOT Optional Base Group 9		Ton
19	Type SP-9.5 Asphaltic Concrete		Ton
20	Type SP-12.5 Asphaltic Concrete		Ton
21	Removal and Disposal of Old Guardrail		LF
22	Reset Guardrail		LF
23	Furnish & Install Guardrail, Steel Beam, Double Face, Incl Hardware		LF
24	Furnish & Install Guardrail, Steel Beam, Straight Panel, Incl Hardware		LF
25	Furnish & Install Aluminum Handrail per FDOT Specification		LF

	Utilities		
26	Adjust Existing Manhole Top to Grade		EA
27	Install New Manhole Top with Ring and Cover to Grade (remove and dispose of existing)		EA
28	Adjust Type "A" Inlet to Grade		EA
29	Remove and Replace Type "A" Inlet		EA
30	Install New Type "A" Inlet		EA
31	Adjust type "C" Inlet to Grade		EA
32	Remove and Replace Type "C" Inlet		EA
33	Install New "C" Inlet		EA
34	Remove and Replace Type P-5 (FDOT) Inlet		EA
35	Remove and Replace Type P-6 (FDOT) Inlet		EA
36	New Type P-5 FDOT Inlet		EA
37	New Type P-6 FDOT Inlet		EA
38	Install New Water Valve box (remove and dispose of existing)		EA
39	Adjust Water Valve Box		EA
40	Remove and Replace Water Meter Box, Single (City standard)		EA
41	Remove and Replace Water Meter Box, Double (City standard)		EA
42	Remove and Replace Electrical Pull Boxes with "New Basis" Model PBC111812T02 or an Approved Equivalent		EA
43	Install Electrical Pull Boxes, "New Basis" Model PBC111812T02 or an Approved Equivalent		EA
44	Remove & Replace Traffic Signal Loops/Wiring (Per PBC Standard)		At Cost
45	Stamped, Colored Concrete (6" thick)		SY
46	Paver Brick (traffic rated)		SY
47	Remove and Replace Paver Brick (traffic rated)		SY
48	Speed Humps, Stamped Asphalt(up to 100SY), primed and painted		SY
	CONCRETE		
49	Concrete Removal up to 6" thick		SY
50	4" Concrete Sidewalk		SY
51	6" Concrete Pathway/Driveway		SY
52	Concrete ADA Curb Ramp with detectable warning surface (FDOT standard)		EA
53	6" ADA Compliant Detectable Warning Pavers Ramp		EA
54	6" ADA Compliant Ramp with Armor-Tile Tactile System or an approved equivalent		EA
55	Remove Concrete Curb All Type include asphalt restoration and sawcut		LF
56	Concrete Curb Type "D"		LF
57	Concrete Curb Type "F"		LF
58	Concrete Header Curb (up to 12" X12")		LF
59	Modified Concrete Curb		LF
60	Concrete Valley Gutter		LF

	STRIPING & SIGNAGE		
61	6" Solid White Thermoplastic Striping		LF
62	6" Skip White Thermoplastic Striping		LF
63	6" Solid Yellow Thermoplastic Striping		LF
64	6" Skip Yellow Thermoplastic Striping		LF
65	6" Double Yellow Thermoplastic Striping		LF
66	12" Solid White Thermoplastic Striping		LF
67	18" Solid White Thermoplastic Striping		LF
68	18" Solid Yellow Thermoplastic Striping		LF
69	24" Solid White Thermoplastic Striping		LF
70	Special Pavement Message: ARROW (single and double) Thermoplastic		EA
71	Special Pavement Message: MERGE, ONLY, R/R, SCHOOL, SHARROW, Thermoplastic		EA
72	Furnish and Install Single Sign Post		AS
73	Relocate Sign and Post		AS
74	6" White Temporary Striping Paint		LF
75	6" White Temporary Striping Plastic Tape		LF
76	6" Yellow Temporary Striping Paint		LF
77	6" Yellow Temporary Striping Plastic Tape		LF
78	Retro-Reflective Pavement Markers (RPMs) All colors		EA
	LANDSCAPING		
79	Bio-Barrier (12" wide)		LF
80	Bio-Barrier (19.5" wide)		LF
81	Sodding (Floratam)		SY
82	Sodding (Bahia)		SY
83	Top Soil (3" Thick)		SY
84	Red Designer Mulch (3")		SY
85	Root Removal/Pruning		AL
86	Tree Removal (up to 12" Diameter)		EA
87	Seeding		SY
88	Stump Removal up to 18" Diameter, Including Roots		EA
89	Stump Removal up to 36" in Diameter, Including Roots		EA
90	Tree Removal up to 18" in Diameter, Incl. Roots		EA
91	Tree Removal up to 36" in Diameter, Incl. Roots		EA
92	Adjust Irrigation		AL
93	Regrade Swales		SY
	* Highlighted items will not be evaluated		

Bidder Company Name: _____

_____

Signature of Official authorized to bind Bidder

Print Name _____

Title _____

Date _____

Failure to fully complete and sign this Bid Form may result in rejection of the Bid

***BIDDERS: THE CITY HAS PROVIDED AN ELECTRONIC SPREADSHEET FOR BID ITEM TABULATION. IT IS MANDATORY THAT ALL BIDDERS PROVIDE BOTH A SIGNED PAPER BID TABULATION AND ELECTRONIC BID TABULATION. THE ELECTRONIC BID TABULATION SHALL BE SUBMITTED WITH THE PAPER BID TABULATION BY MEANS OF COMPACT DISC, FLASH DRIVE, OR OTHER DIGITAL DATA STORAGE DEVICE. PAPER BID TABULATION AND ELECTRONIC BID TABULATION SHALL BE MATERIALLY CONSISTENT AND CONTAIN THE SAME INFORMATION. IN CASE OF DISCREPANCY, THE SIGNED PAPER BID TABULATION SHALL PREVAIL. FAILURE TO SUBMIT AN ELECTRONIC COPY/VERSION OF THE PROVIDED BID TABULATION MAY BE CAUSE FOR REJECTION OF THE BID.**

WEST PALM BEACH
Purchasing Department

401 Clematis Street, 5th Floor
West Palm Beach, FL 33401
Telephone: (561) 822-2100
Telefax: (561) 822-1564

Addendum 2
ITB 14-15-134
July 22, 2015

General Roadway and Miscellaneous Construction

Each recipient of this Addendum acknowledges all of the provisions set forth in the Invitation to Bid (ITB) and agrees to be bound by the terms thereof.

This addendum shall modify, clarify, change or add information and become part of the above referenced ITB.

This Addendum shall provide the following information:

- Questions and Answers
- Revised Section 2 Special Terms
- Revised Form B2

The following documents are included with this addendum:

- Addendum 2 ITB 14-15-134
- Addendum 2 ITB 14-15-134 Revised Section 2 – Special Terms
- Addendum 2 ITB 14-15-135 Revised Form B2

Questions and Answers

Question 1: Is a bid bond required for this project?

Answer
No, a bid bond is not required. Bonding may be required for work orders issued for this contract.

Question 2: Regarding Section 2 – Special Terms, Item 1, Time of Completion and Liquidated Damages. How will the contract time and fines be applied to the contract?

Answer
The time of completion dates are removed from the bid documents. Timing for substantial and final completion will be included on the work orders issued for individual projects. Liquidated damages will be calculated at 25% of each work order amount.

Question 3: What dollar amount is to be used on Form B2?

Answer
No dollar amount is expected as this is a line item bid. There is a note on the form to refer to the list of bid items on Form B3.

Question 4: What dollar amount is to be used on the list of subcontractors on Form B5?

Answer
No dollar amount is expected at this time and the field can be completed with TBD. The dollar amount will be included on the work order issued for a specific project.

Question 5: How should suppliers for materials and dollar amounts be listed on Form B15?

Answer
Form B15 can be left blank or marked TBD at this time; the information will be completed when a work order is issued for a specific project.

Question 6: How should contractors respond to the allowance items on Form B? Should they be left blank or marked TBD?

Answer
The allowance items and lump sum items can be marked TBD for the bid response.

Question 7: How should contractors provide SBE percentages when the quantities and value of the project(s) are unknown?

Answer
Include the names of your SBE team and mark the percentage fields as TBD. Contractors will be expected to meet the SBE goal for the projects assigned via work order.

All of the other information remains the same.

Proposers must acknowledge receipt of this Addendum 1 in the space provided below. This Addendum forms an integral part of the ITB documents and therefore must be executed. *Failure to return this addendum with your proposal submittal may be cause for disqualification.*

Issued By: City of West Palm Beach
Procurement Division
July 22, 2015

Signed By:
Patricia D. Armstrong
Sr. Purchasing Agent

PROPOSER: N+M Asphalt Maintenance, Inc.
d/b/a All County Paving

Signed By:

Print Name: Kenneth Goldberg

Title: President

Date: 7-27-15

End of Addendum 2

SECTION 2 – SPECIAL TERMS

1. **Pre-Bid Conference**

A pre-bid conference is scheduled to provide potential bidders the opportunity to ask questions and receive clarification concerning the project and to emphasize safety factors, hazards, or potential interference of other projects. If a pre-bid conference is scheduled, attendance is strongly encouraged. If a site inspection is scheduled it will be the only opportunity to inspect the site and attendance is recommended as no individual appointments will be made.

Date: N/A
Time: N/A
Place: N/A

Please bring your copy of the Invitation to Bid to the pre-bid conference.

In accordance with the Americans with Disabilities Act, any person who believes he or she has a disability requiring the use of a special accommodation at either the scheduled site inspection, pre-bid conference or bid opening should contact the Procurement Division at 561-822-2100, at least five (5) days prior to the event to advise of his/her special requirements.

2. **Time of Completion and Liquidated Damages**. The work to be performed under this project shall commence on the date of Notice to Proceed. The work shall be substantially completed within ~~**120 ONE HUNDRED TWENTY)**~~ **TBD** calendar days after the date of such notice, and fully completed within ~~**180 (ONE HUNDRED EIGHTY)**~~ **TBD** calendar days, with such extensions of time as are provided for in the General Terms and Conditions. If said work is not substantially completed within the specified times, the Contractor shall be liable and hereby agrees to pay to the Owner as liquidated damages, and not as a penalty, the sum of ~~**ONE THOUSAND TWO HUNDRED ($1,200)**~~ **TBD** per calendar day for each and every day or part of a day thereafter that said work remains incomplete.

3. **Permits and Fees**. In accordance with the Public Bid Disclosure Act, the Contractor will be required to make payment to the City of West Palm Beach for following permits or licenses, impact, inspection or other fees for this Project under the Contract: (F.S. 218.80)

(Permit)	(Fee/Amount or calculation)
Right-of-Way Permit	See City website (www.cityofwpb.org)
Parking Permit (Bagging of Meters)	See City website (www.cityofwpb.org)

Refer to City Website (wpb.org) for current permit fees.

4. **Licenses**. The Bidder will be required to have at the time of bid submittal, the following current license(s):

- State of Florida General Contractor's License or Paving Contractor's License

The Bidder will also be required, at the time of contract execution, to have a business tax receipt or certificate of registration in accordance with the following:

- No person, contractor or subcontractor may conduct business within the City without a business tax receipt or certificate of registration.

- A contractor who holds a valid countywide contractor's license, in addition to a county business tax receipt shall register with the City.

- Any person engaging in any business, occupation or profession within the City without a permanent business location or branch office in the City, but holding a valid and currently effective business tax receipt issued by the county or another incorporated municipality, shall be issued a certificate of registration upon registering with the business tax official.

5. **Small Business Participation**. In accordance with the Small Business Ordinance, the goal for Small Business participation under the contract resulting from this Invitation to Bid is **15%** of the total contract value.

6. **Construction Bond**. If required, please refer to General Condition 11.

Required **Yes** Not Required

7. **Insurance**. Please refer to General Condition 13 for insurance requirements, unless a modification to such requirements is listed below:

8. **Equal Benefits Ordinance**. Section 66-9 of the City's Code of Ordinances provides that, with limited exceptions, when contracting for goods, services or construction in an amount of $50,000 or more, with persons or businesses with five or more employees that also provide benefits to employees' spouses and dependents, the city shall contract only with those persons or businesses that provide equal benefits to employees' domestic partners. Each proposer shall submit an Equal Benefits certification with its proposal/bid

9. **Other Special Conditions**:

METHOD OF AWARD

The City intends to award to a Primary and Secondary Vendor(s). The award of the Primary and Secondary bidder will be determined in order of responsiveness, lowest price, and consideration of bidder's bid package with reference to conforming of bid, deviations (if any,) bidder's notes, materials proposed, along with bidder's qualifications, adequate organization, and personnel to ensure prompt and efficient performance of work to the City. If the Primary bidder is not able to supply the product/material in question, the City will contact the Secondary bidder accordingly.

City of West Palm Beach

(B2)

BID

ITB 14-15-134

Proposal of: _____

(Bidder Company Name)

Bid Amount: $_____N/A_____

See Bid Items 1 – 96 on Form B3 – Schedule of Bid Items

(Write Dollar Figure Here)

Bidder agrees to furnish, unless otherwise provided, all implements, machinery, equipment, transportation, tools, materials, supplies, labor and other things necessary for the performance and completion of the work for the amount indicated above.

The undersigned Bidder hereby declares that:

1. No Lobbying. Proposer acknowledges that contact by a Proposer, or anyone representing a Proposer, regarding this ITB with the Mayor, any City Commissioner, officer, City employee, other than an employee of the West Palm Beach Procurement Division, is grounds for disqualification.

2. This bid is made in good faith, without collusion or fraud and is fair and competitive in all respects.

3. The Bidder has carefully and to his full satisfaction examined the attached Scope of Work, Special Terms, General Conditions, technical specifications, and form of bonds, if applicable, together with the accompanying plans, and Bidder has read all issued addenda issued.

4. Bidder has made a full examination of the site and is familiar with the site conditions that may impact its performance.

5. There is enclosed a bid guarantee consisting of five percent (5%) of bid price in the amount of $_____**N/A**_____.

6. Upon receipt of a Notice of Intent to Award the contract the Bidder shall: 1) commence obtaining a Performance Bond, Labor and Material Bond, and Certificate(s) of Insurance immediately after receiving a Notice of Intent to Award, and 2) immediately obtain a Certificate of Registration for engaging in business from the City, as such documents will be required prior to execution of a Contract.

7. Bidder understands that the contract time starts on the date of Notice to Proceed.

8. Bidder furthermore agrees that, in case of failure on his part to execute a Contract and provide all required documents within ten (10) calendar days of receipt of the Contract for execution, the City may withdraw the offer and contract with another bidder and the check, bond, or other security accompanying his bid and the money payable thereon, shall become the property of the City, by forfeit as agreed and liquidated damages.

9. The Bidder states that this bid is the only bid for this project in which Bidder is interested; and Bidder shall not be a subcontractor or subcontractor on this project.

10. Substantial completion shall be within ~~**One Hundred and Twenty (120)**~~ **TBD** calendar days. Final completion shall be in ~~**One Hundred Eighty (180)**~~ **TBD** calendar days.

11. Liquidated damages for delay are agreed to be ~~**$1,200.00**~~ **TBD** per calendar day.

12. Small Business participation for this project is 15%.

13. Bidder shall be responsible for all permitting fees and utility service connection fees. For construction of a building, the City shall be responsible for plan and permit review fees through its Construction Services Department.

14. All debris is to be legally disposed of at a licensed disposal site in accordance with city, state, and federal standards.

15. The City reserves the right to select and include one or more alternates in the Project and work.

16. The following officer, director or agent of the Bidder is also an employee of the City of West Palm Beach:

Name *Address*

_____

_____

_____

17. The following employee(s) of the City of West Palm Beach hold, either directly or indirectly, an interest of 10% or more of Bidder or its affiliates or subsidiaries:

Name *Address*

_____

_____

_____

18. Bidder and all affiliates, suppliers, subcontractor or consultants who will perform the Work have not been placed on the Public Entity Crimes convicted vendor list maintained by the State of Florida within the 36 months immediately preceding the date of this Bid.

19. Bidder acknowledges that ADDENDA NO(S). _____ have been RECEIVED and are ATTACHED HERETO and are signed by a duly authorized officer of Bidder.

20. By signing and submitting this Bid, Bidder represents that all Bid Forms are fully complete and accurate.

21. Bidder acknowledges that the Bid may be rejected if all Bid Forms are not fully complete, not accurate or if forms are not signed by properly authorized signatures where required.

Bidder Company Name: _____

Business Address: (Street, City, State, Zip Code) _____

_____

State of Incorporated: _____ Telephone: _____ Fax: _____

BIDDER:

_____

Signature of Official authorized to bind Bidder.

Print Name: _____

Title: _____

Date: _____

Failure to fully complete and sign this Bid Form may result in rejection of the Bid.

City of West Palm Beach **(B2)**

BID

ITB 14-15-134

Proposal of: M & M Asphalt Maintenance, Inc. d/b/a All County Paving
(Bidder Company Name)

Bid Amount: $ N/A

See Bid Items 1 – 96 on Form B3 – Schedule of Bid Items
(Write Dollar Figure Here)

Bidder agrees to furnish, unless otherwise provided, all implements, machinery, equipment, transportation, tools, materials, supplies, labor and other things necessary for the performance and completion of the work for the amount indicated above.

The undersigned Bidder hereby declares that:

1. No Lobbying. Proposer acknowledges that contact by a Proposer, or anyone representing a Proposer, regarding this ITB with the Mayor, any City Commissioner, officer, City employee, other than an employee of the West Palm Beach Procurement Division, is grounds for disqualification.

2. This bid is made in good faith, without collusion or fraud and is fair and competitive in all respects.

3. The Bidder has carefully and to his full satisfaction examined the attached Scope of Work, Special Terms, General Conditions, technical specifications, and form of bonds, if applicable, together with the accompanying plans, and Bidder has read all issued addenda issued.

4. Bidder has made a full examination of the site and is familiar with the site conditions that may impact its performance.

5. There is enclosed a bid guarantee consisting of five percent (5%) of bid price in the amount of $**N/A**.

6. Upon receipt of a Notice of Intent to Award the contract the Bidder shall: 1) commence obtaining a Performance Bond, Labor and Material Bond, and Certificate(s) of Insurance immediately after receiving a Notice of Intent to Award, and 2) immediately obtain a Certificate of Registration for engaging in business from the City, as such documents will be required prior to execution of a Contract.

7. Bidder understands that the contract time starts on the date of Notice to Proceed.

8. Bidder furthermore agrees that, in case of failure on his part to execute a Contract and provide all required documents within ten (10) calendar days of receipt of the Contract for execution, the City may withdraw the offer and contract with another bidder and the check, bond, or other security accompanying his bid and the money payable thereon, shall become the property of the City, by forfeit as agreed and liquidated damages.

9. The Bidder states that this bid is the only bid for this project in which Bidder is interested; and Bidder shall not be a subcontractor or subcontractor on this project.

10. Substantial completion shall be within ~~**One Hundred and Twenty (120)**~~ **TBD** calendar days. Final completion shall be in ~~**One Hundred Eighty (180)**~~ **TBD** calendar days.

11. Liquidated damages for delay are agreed to be ~~**$1,200.00**~~ **TBD** per calendar day.

12. Small Business participation for this project is 15%.

13. Bidder shall be responsible for all permitting fees and utility service connection fees. For construction of a building, the City shall be responsible for plan and permit review fees through its Construction Services Department.

14. All debris is to be legally disposed of at a licensed disposal site in accordance with city, state, and federal standards.

15. The City reserves the right to select and include one or more alternates in the Project and work.

16. The following officer, director or agent of the Bidder is also an employee of the City of West Palm Beach:

Name *Address*

None

17. The following employee(s) of the City of West Palm Beach hold, either directly or indirectly, an interest of 10% or more of Bidder or its affiliates or subsidiaries:

Name *Address*

None

18. Bidder and all affiliates, suppliers, subcontractor or consultants who will perform the Work have not been placed on the Public Entity Crimes convicted vendor list maintained by the State of Florida within the 36 months immediately preceding the date of this Bid.

19. Bidder acknowledges that ADDENDA NO(S). 1 & 2 have been RECEIVED and are ATTACHED HERETO and are signed by a duly authorized officer of Bidder.

20. By signing and submitting this Bid, Bidder represents that all Bid Forms are fully complete and accurate.

21. Bidder acknowledges that the Bid may be rejected if all Bid Forms are not fully complete, not accurate or if forms are not signed by properly authorized signatures where required.

Bidder Company Name: M & M Asphalt Maintenance, Inc. d/b/a All County Paving

Business Address: (Street, City, State, Zip Code) 1180 SW 10th Street
Delray Beach, FL 33444

State of Incorporated: FL Telephone: 561-588-0949 Fax: 561-588-2140

BIDDER:

Signature of Official authorized to bind Bidder.

Print Name: Kenneth Goldberg

Title: President

Date: 7-27-15

Failure to fully complete and sign this Bid Form may result in rejection of the Bid.

Schedule of Bid Items

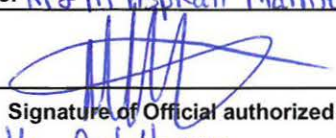
ITB 14-15-134
PROJECT TITLE: General Roadway and Miscellaneous Construction

Item No.	*Item Description*	*Unit Cost*	*Units*
	GENERAL		
1	Mobilization	TBD	LS
2	Maintenance of Traffic	TBD	LS
3	Bonding	TBD	LS
4	Insurance	TBD	LS
5	Construction Permits (Allowance)	TBD	AL
6	Vehicle Towing (Allowance)	TBD	AL
	ROADWAY		
7	Reclaimed Asphalt Base Course (Up to 10")	$12.90	SY
8	Asphalt Emulsion for Reclamation (Asphalt Treated Base)	$2.50	GAL
9	Saw Cut Existing Concrete/Pavement up to 12" deep	$2.00	LF
10	Concrete Road Base Removal up to 12" deep	$11.00	SY
11	Excavation, Removal & Disposal of excess material	$25.00	CY
12	Mill Existing Asphalt (up to 2")	$2.50	SY
13	Mill Existing Asphalt (2"-4")	$3.10	SY
14	Asphalt & Base Removal, up to 24"	$11.85	SY
15	12" Compacted, Stabilized Subbase	$5.00	SY
16	FDOT Optional Base Group 4	$40.00	Ton
17	FDOT Optional Base Group 6	$40.00	Ton
18	FDOT Optional Base Group 9	$40.00	Ton
19	Type SP-9.5 Asphaltic Concrete	$110.00	Ton
20	Type SP-12.5 Asphaltic Concrete	$110.00	Ton
21	Removal and Disposal of Old Guardrail	$5.95	LF
22	Reset Guardrail	$11.00	LF
23	Furnish & Install Guardrail, Steel Beam, Double Face, Incl Hardware	$38.50	LF
24	Furnish & Install Guardrail, Steel Beam, Straight Panel, Incl Hardware	$27.50	LF
25	Furnish & Install Aluminum Handrail per FDOT Specification	$85.00	LF

	Utilities		
26	Adjust Existing Manhole Top to Grade	$500.00	EA
27	Install New Manhole Top with Ring and Cover to Grade (remove and dispose of existing)	$750.00	EA
28	Adjust Type "A" Inlet to Grade	$2,500.00	EA
29	Remove and Replace Type "A" Inlet	$5,500.00	EA
30	Install New Type "A" Inlet	$4,200.00	EA
31	Adjust type "C" Inlet to Grade	$2,500.00	EA
32	Remove and Replace Type "C" Inlet	$5,800.00	EA
33	Install New "C" Inlet	$4,500.00	EA
34	Remove and Replace Type P-5 (FDOT) Inlet	$7,700.00	EA
35	Remove and Replace Type P-6 (FDOT) Inlet	$7,500.00	EA
36	New Type P-5 FDOT Inlet	$6,200.00	EA
37	New Type P-6 FDOT Inlet	$6,000.00	EA
38	Install New Water Valve box (remove and dispose of existing)	$500.00	EA
39	Adjust Water Valve Box	$350.00	EA
40	Remove and Replace Water Meter Box, Single (City standard)	$500.00	EA
41	Remove and Replace Water Meter Box, Double (City standard)	$600.00	EA
42	Remove and Replace Electrical Pull Boxes with "New Basis" Model PBC111812T02 or an Approved Equivalent	$1,500.00	EA
43	Install Electrical Pull Boxes, "New Basis" Model PBC111812T02 or an Approved Equivalent	$1,100.00	EA
44	Remove & Replace Traffic Signal Loops/Wiring (Per PBC Standard)	TBD	At Cost
45	Stamped, Colored Concrete (6" thick)	$72.00	SY
46	Paver Brick (traffic rated)	$30.00	SY
47	Remove and Replace Paver Brick (traffic rated)	$35.00	SY
48	Speed Humps, Stamped Asphalt(up to 100SY), primed and painted	$188.00	SY
	CONCRETE		
49	Concrete Removal up to 6" thick	$10.15	SY
50	4" Concrete Sidewalk	$34.50	SY
51	6" Concrete Pathway/Driveway	$42.50	SY
52	Concrete ADA Curb Ramp with detectable warning surface (FDOT standard)	$575.00	EA
53	6" ADA Compliant Detectable Warning Pavers Ramp	$1,200.00	EA
54	6" ADA Compliant Ramp with Armor-Tile Tactile System or an approved equivalent	$975.00	EA
55	Remove Concrete Curb All Type include asphalt restoration and sawcut	$4.50	LF
56	Concrete Curb Type "D"	$11.50	LF
57	Concrete Curb Type "F"	$20.00	LF
58	Concrete Header Curb (up to 12" X12")	$20.00	LF
59	Modified Concrete Curb	$20.00	LF
60	Concrete Valley Gutter	$20.00	LF

	STRIPING & SIGNAGE		
61	6" Solid White Thermoplastic Striping	$0.88	LF
62	6" Skip White Thermoplastic Striping	$0.88	LF
63	6" Solid Yellow Thermoplastic Striping	$0.88	LF
64	6" Skip Yellow Thermoplastic Striping	$0.88	LF
65	6" Double Yellow Thermoplastic Striping	$1.76	LF
66	12" Solid White Thermoplastic Striping	$1.65	LF
67	18" Solid White Thermoplastic Striping	$2.20	LF
68	18" Solid Yellow Thermoplastic Striping	$2.20	LF
69	24" Solid White Thermoplastic Striping	$3.30	LF
70	Special Pavement Message: ARROW (single and double) Thermoplastic	$99.00	EA
71	Special Pavement Message: MERGE, ONLY, R/R, SCHOOL, SHARROW, Thermoplastic	$121.00	EA
72	Furnish and Install Single Sign Post	$292	AS
73	Relocate Sign and Post	$192.00	AS
74	6" White Temporary Striping Paint	$0.33	LF
75	6" White Temporary Striping Plastic Tape	$0.66	LF
76	6" Yellow Temporary Striping Paint	$0.33	LF
77	6" Yellow Temporary Striping Plastic Tape	$0.66	LF
78	Retro-Reflective Pavement Markers (RPMs) All colors	$4.40	EA
	LANDSCAPING		
79	Bio-Barrier (12" wide)	$15.00	LF
80	Bio-Barrier (19.5" wide)	$18.00	LF
81	Sodding (Floratam)	$3.50	SY
82	Sodding (Bahia)	$3.20	SY
83	Top Soil (3" Thick)	$16.50	SY
84	Red Designer Mulch (3")	$21.00	SY
85	Root Removal/Pruning	TBD	AL
86	Tree Removal (up to 12" Diameter)	$1,000.00	EA
87	Seeding	$10.00	SY
88	Stump Removal up to 18" Diameter, Including Roots	$750.00	EA
89	Stump Removal up to 36" in Diameter, Including Roots	$850.00	EA
90	Tree Removal up to 18" in Diameter, Incl. Roots	$1,500.00	EA
91	Tree Removal up to 36" in Diameter, Incl. Roots	2,000.00	EA
92	Adjust Irrigation	TBD	AL
93	Regrade Swales	$13.50	SY
	* Highlighted items will not be evaluated		

Bidder Company Name: M & M Asphalt Maintenance, Inc. d/b/a All County Paving



Signature of Official authorized to bind Bidder

Print Name Kenneth Goldberg

Title President

Date 7-27-15

Failure to fully complete and sign this Bid Form may result in rejection of the Bid

***BIDDERS: THE CITY HAS PROVIDED AN ELECTRONIC SPREADSHEET FOR BID ITEM TABULATION. IT IS MANDATORY THAT ALL BIDDERS PROVIDE BOTH A SIGNED PAPER BID TABULATION AND ELECTRONIC BID TABULATION. THE ELECTRONIC BID TABULATION SHALL BE SUBMITTED WITH THE PAPER BID TABULATION BY MEANS OF COMPACT DISC, FLASH DRIVE, OR OTHER DIGITAL DATA STORAGE DEVICE. PAPER BID TABULATION AND ELECTRONIC BID TABULATION SHALL BE MATERIALLY CONSISTENT AND CONTAIN THE SAME INFORMATION. IN CASE OF DISCREPANCY, THE SIGNED PAPER BID TABULATION SHALL PREVAIL. FAILURE TO SUBMIT AN ELECTRONIC COPY/VERSION OF THE PROVIDED BID TABULATION MAY BE CAUSE FOR REJECTION OF THE BID.**

City of West Palm Beach **(B4)**

ITB 14-15-134

SUBSTITUTION SHEET

This form must be completed if Bidder proposes to deviate from any contract requirements including, but not limited to, proposed material specifications, proposed method, construction schedule, or phasing plan. Associated "Add" or "Deduct" must be provided.

DESCRIPTION OR BID ITEM NO.	MAKE SPECIFIED	PROPOSED SUBSTITUTION	ADD	DEDUCT
None			$	$
			$	$
			$	$
			$	$
			$	$
			$	$
			$	$

City of West Palm Beach

ITB 14-15-134

(B5)

SCHEDULE OF SUBCONTRACTORS

Failure to fully complete form may result in bid rejection.
The following is a complete list of all subcontractors utilized for this project:

			Dollar amount of subcontract work
1.	Asphalt Paving Systems (company name)	Reclamation (type of work)	$ TBD
	9021 Wire Rd., Zephyrhills, FL (address)	813-455-2471 (tel. #)	
	33540 (zip code)	22-3787755 (federal I.D. #)	
2.	WM. D. Adeimy Jr., Inc. (company name)	Concrete (type of work)	$ TBD
	1201 Omar Rd., West Palm Beach, FL (address)	561-832-6305 (tel. #)	
	33405 (zip code)	59-1927258 (federal I.D. #)	
3.	Southwide Industries, Inc. (company name)	Striping (type of work)	$ TBD
	4357 Okeechobee Blvd., Ste C4 (address)	561-688-8833 (tel. #)	
	West Palm Beach, FL 33409 (zip code)	65-0857746 (federal I.D. #)	
4.	Centerline Utilities, Inc. (company name)	Drainage (type of work)	$ TBD
	2180 SW Poma Drive, Palm City, FL (address)	561-689-3917 (tel. #)	
	34990 (zip code)	65-0849488 (federal I.D. #)	
5.	(company name)	(type of work)	$
	(address)	(tel. #)	
	(zip code)	(federal I.D. #)	

Total dollar amount to be awarded to subcontractors (this page) $ TBD

ITB 14-15-134

SCHEDULE OF SUBCONTRACTORS (continued if necessary)

6. _____ (company name) _____ (type of work) $ _____

_____ (address) _____ (tel. #)

_____ (zip code) _____ (federal I.D. #)

7. _____ (company name) _____ (type of work) $ _____

_____ (address) _____ (tel. #)

_____ (zip code) _____ (federal I.D. #)

8. _____ (company name) _____ (type of work) $ _____

_____ (address) _____ (tel. #)

_____ (zip code) _____ (federal I.D. #)

9. _____ (company name) _____ (type of work) $ _____

_____ (address) _____ (tel. #)

_____ (zip code) _____ (federal I.D. #)

Total dollar amount to be awarded to Subcontractors $ TBD

Authorized Signature: _____

Note: The above schedule of subcontractors will become a part of the Contract documents. Changes made to the above schedule of subcontractors after the contract has been executed must be submitted in writing to the Engineering and Public Works Department for approval prior to that subcontractor performing any work.

City of West Palm Beach **(B6)**

ITB 14-15-134

CONTRACTOR VERIFICATION FORM

PRIME BIDDER:

Name of Firm: M & M Asphalt Maintenance, Inc. d/b/a All County Paving

Address: 1180 SW 10th Street
Delray Beach, FL 33444

Telephone: ( ) 561-588-0949

Fax: ( ) 561-588-2140

GENERAL CONTRACTOR OF RECORD:

Name: Micheal M. Ritter Jr.

Address: 1180 SW 10th Street
Delray Beach, FL 33444

State License # CGC1509532 **(ATTACH COPY)**

County License # U-21491 **(ATTACH COPY)**

Type of License: Paving

Unlimited Yes (yes/no)

If "NO", Limited to what trade? _____

Is the General Contractor a full-time employee of Prime Bidder?

X Yes ____ No

Will the General Contractor be in responsible charge of the work performed and installed under this contract?

X Yes ____ No

City License: **(COPY OF CITY REGISTRATION OR BUSINESS TAX RECEIPT –MUST BE OBTAINED PRIOR TO CONTRACT EXECUTION –** *Maybe obtained from City Construction Services* **)**

Failure to fully or accurately complete this form may be cause for rejection of the bid.

WEST PALM BEACH

Purchasing Department

AWARD MEMORANDUM

Date: August 4, 2015

To: Uyen Dang
Senior Project Engineer
Engineering and Public Works

From: Frank Hayden
Procurement Official

Subject: ITB 14-15-134 Award Recommendation
General Roadway and Miscellaneous Construction

The following vendors responded to the above mentioned ITB:

- Asphalt Paving – Not responsive due to lack of required licenses or certifications
- Community Asphalt
- DP Development
- Foster Marine
- M&M Asphalt Maintenance D/B/A All County Paving
- West Construction
- Wynn & Sons

Please review the submitted quotes and advise us of your award recommendation.

I recommend award to: M&M Asphalt and DP Development

Reason: Recommend award two above referenced contractors because unit prices for the two firms are fair, balanced and is the best value to the City.

8/4/2015
Reviewer Signature/Date

I agree/disagree with the award recommendation:

Procurement Official Signature/Date

401 CLEMATIS STREET
P.O. BOX 3366
WEST PALM BEACH, FL 33401
561.822.2100

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
PROPOSED RESOLUTION NO. R17-105 - Approve and authorize the City Manager to sign an Agreement with Ballard Partners, Inc. of Tallahassee, FL for RFP No. 071-1210-17/IT - Appropriations Lobbyist Services for the City of Boynton Beach in the estimated annual amount of $60,000 plus expenses, and authorize the City Manager to renew the Agreement for three (3) additional one-year renewal periods.

EXPLANATION OF REQUEST:
Initial Term of Agreement: October 1, 2017- September 30, 2018
On September 18, 2017, the City opened and tabulated two (2) proposals to RFP #071-1210-17/IT for Appropriations Lobbyist Services. This RFP was issued seeking the services of a qualified lobbyist services firm to assist the City in the acquisition of funds from non-profit organizations and public entities.
The Committee independently ranked the proposals based on evaluation criteria outlined in the RFP. In a publicly noticed evaluation meeting held on October 27, 2017, the Committee revealed and discussed their scoring. The scores were tabulated by Purchasing Services to arrive at the final score for each firm and the final overall ranking.
The Committee ranked the proposals as follows:

Rank 1: Ballard Partners, Inc.
Rank 2: The Merchant Strategy, Inc.

The committee's recommendation is to award the agreement to Ballard Partners, Inc. as the highest-ranked qualified firm.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
As State and Federal funding continues to shrink and unfunded mandates increase, it is imperative that we have an active legislative program. The consultant will assist the City in developing a legislative agenda and engage in advocacy as needed and/or requested to promote the City's position on priority issues. They will inform and advise the City regarding any proposed and/or actual changes in laws, with particular emphasis on changes which might result in "unfunded mandates" or negatively impact the City's "home rule powers" as well as propose and develop opportunities that will access funding at the policy making level.

FISCAL IMPACT: Budgeted
The cost of this agreement has been included in the City's FY17/18 budget under line item 001-1211-512-49-17.

Previous expenses: FY16/17 - $60,000;
FY15/16 - $60,180

ALTERNATIVES: Not approve this agreement and not have any representation at the state and federal levels as it related to funding issues or re-advertise the RFP.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Resolution	Resolution approving Agreement with Ballard Partners for Appropriation Lobbyist Services and authorizing renewal
🗋	Agreement	Agreement Ballard Partners
🗋	Attachment	Notice of Intent to Award - Ballard Partners
🗋	Attachment	Summary of Reviewers Scores

RESOLUTION NO. R17-

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, APPROVING AN AGREEMENT BETWEEN THE CITY OF BOYNTON BEACH AND BALLARD PARTNERS, INC., FOR APPROPRIATION LOBBYIST SERVICES IN AN ANNUAL ESTIMATED AMOUNT OF $60,000.00 PLUS EXPENSES; AUTHORIZING THE CITY MANAGER TO SIGN THE AGREEMENT; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, on September 18, 2017 Procurement Services opened and tabulated two (2) proposals in response to the RFP #071-1210-17/IT for "Appropriation Lobbyist Services;" and

WHEREAS, the Evaluation Committee independently ranked the proposals based on the evaluation criteria outlined in the RFP; and

WHEREAS, the committee's recommendation is to award the agreement to Ballard Partners, Inc., of Tallahassee, FL, as the highest ranked firm in the estimated annual amount of $60,000, plus expenses

WHEREAS, the City Commission of the City of Boynton Beach, Florida deems it to be in the best interests of the citizens and residents of the City of Boynton to enter into an Professional Agreement with Ballard Partners, Inc., for Appropriation Lobbyist Services.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof.

Section 2. The City Commission of the City of Boynton Beach, Florida does hereby

approve and authorize the City Manager to sign an Agreement for Lobbyist Services between the City of Boynton Beach and Ballard Partners, Inc., of Tallahassee, FL, in the annual estimated amount of $60,000.00 plus expenses, a copy of the Professional Agreement is attached hereto as Exhibit "A.

Section 3. This Resolution shall become effective immediately upon passage.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(City Seal)

AGREEMENT BETWEEN THE CITY OF BOYNTON BEACH AND BALLARD PARTNERS, INC.
RFP NO. 071-1210-17/IT – APPROPRIATION LOBBYIST SERVICES

THIS AGREEMENT is entered into between the City of Boynton Beach, hereinafter referred to as "the City", and **BALLARD PARTNERS, INC.**, hereinafter referred to as "FIRM", in consideration of the mutual benefits, terms, and conditions hereinafter specified.

1. PROJECT DESIGNATION. The Firm is retained by the City to perform professional services in connection with the **RFP FOR APPROPRIATION LOBBYIST SERVICES; RFP No.: 071-1210-17/IT.**

2. SCOPE OF SERVICES. Firm agrees to perform the services, identified in **Section II – Scope of Services** and attached hereto as Exhibit A.

3. TIME FOR PERFORMANCE. Work under this agreement shall commence upon written notice by the City to the Professional to proceed. Professional shall perform all services and provide all work product required pursuant to this agreement upon written notice to proceed.

4. TERM: This Agreement shall be for a period of one-year commencing on October 1, 2017. The City of Boynton Beach may extend the contract with the same terms and conditions for three additional, one-year renewal terms subject to vendor acceptance, satisfactory performance and determination that renewal will be in the best interest of the City.

5. PAYMENT: The Firm shall be paid by the Provider/City for completed work and for services rendered under this agreement as follows, not to exceed $60,000 annually plus expenses.

    a. The total contract price, as referred to herein, shall be the total amount of payment to Firm for services provided under this agreement for the entire term of the Agreement

    b. Payment for the work provided by Firm shall be made promptly on all invoices submitted to the City properly, provided that the total amount of payment to Firm shall not exceed the total contract price without express written modification of the Agreement signed by the City Manager or his designee.

    c. The Firm may submit invoices to the City once per month during the progress of the work for partial payment for project completed to date. Such invoices will be reviewed by the City, and upon approval thereof, payment will be made to the Firm in the amount approved.

    d. Final payment of any balance due the Firm of the total contract price earned will be made promptly upon its ascertainment and verification by the City after the completion of the work under this Agreement and its acceptance by the City.

    e. Payment as provided in this section by the City shall be full compensation for work performed, services rendered and for all materials, supplies, equipment and incidentals necessary to complete the work.

    f. The Firm's records and accounts pertaining to this agreement are to be kept available for inspection by representatives of the City and State for a period of three (3) years after the termination of the Agreement. Copies shall be made available upon request.

6. OWNERSHIP AND USE OF DOCUMENTS. All documents, drawings, specifications and other materials produced by the Firm in connection with the services rendered under this Agreement shall be the property of the City whether the project for which they are made is executed or not. The Firm shall be permitted to retain copies, including reproducible copies, of drawings and specifications for information, reference and use in connection with Firm's endeavors.

7. COMPLIANCE WITH LAWS. Professional shall, in performing the services contemplated by this Agreement, faithfully observe and comply with all federal, state and local laws, ordinances and regulations that are applicable to the services to be rendered under this agreement.

8. INDEMNIFICATION. Professional shall indemnify, defend and hold harmless the City, its offices, agents and employees, from and against any and all claims, losses or liability, or any portion thereof, including fees and costs, arising from injury or death to persons, including injuries, sickness, disease or death to Professional's own employees, or damage to property occasioned by a negligent act, omission or failure of the Professional.

9. INSURANCE. Successful Offeror shall, at a minimum, provide, pay for, and maintain in force at all times during the term of this Contract the following insurances:

   Commercial Liability Insurance - A Commercial Liability Insurance Policy shall be provided which shall contain limits of no less than One Million Dollars ($1,000,000.00) per occurrence for bodily injury liability, personal injury liability and property damage liability on a per project basis, and shall contain limits of no less than a Two Million Dollars ($2,000.000.00) aggregate.

   Coverage must be afforded on a form no more restrictive than CG 20 10 10 01 and CG 20 37 10 01 Commercial Liability Policy, without restrictive endorsements, as filed by the Insurance Services Office and must include: premises and operations, independent contractors, products and/or completed operations for contracts, broad form contractual coverage applicable to this specific Contract including any hold harmless and/or indemnification Contract, personal injury coverage with employee and contractual exclusions removed and policy limits shall be applied on a primary and non-contributory basis.

   Professional Liability (Errors & Omissions) Insurance - Professional Liability Insurance with the limits of liability provided by such policy for each claim and on a claim made basis or on an occurrence basis to be no less than one million Dollars ($1,000,000) per occurrence with a limit of no less than two million dollars ($2,000,000) aggregate. Consultant shall notify the City in writing within thirty (30) days of any claim filed or made against its Professional Liability Insurance Policy. Consultant acknowledges that the City is relying on the competence of the Consultant to design the project to meet its functional intent. If it is determined during course of the project that changes must be made due to Consultant's negligent errors and omissions, Consultant shall promptly rectify them at no cost to City and shall be responsible for additional costs, if any, of the project to the proportional extent caused by such negligent errors or omissions.

   Workers Compensation Insurance - Workers' Compensation insurance to apply for all employees in compliance with State Statutory limits, as may be amended from time to time, the "Workers' Compensation Law" of the State of Domicile, and all applicable Federal laws. In addition, the policy(ies) must include employers' liability with a limit of One Million Dollars ($1,000,000.00) each accident, One Million Dollars ($1,000,000.00) aggregate limit by

disease and One Million Dollars ($1,000,000.00) each employee by disease. Additionally, if there will be operations undertaken on or about navigable waters, a coverage endorsement must be included for the U.S. Longshoremen & Harbor Workers Act and Jones Act. If exempt for Worker's Compensation, proper documentation shall be provided.

Said general liability policy shall name the City of Boynton Beach as an "additional named insured" and shall include a provision prohibiting cancellation of said policy except upon thirty (30) days prior written notice to the City. Certificates of coverage as required by this section shall be delivered to the City within fifteen (15) days of execution of this agreement.

10. INDEPENDENT CONTRACTOR. The Professional and the City agree that the Professional is an independent contractor with respect to the services provided pursuant to this agreement. Nothing in this agreement shall be considered to create the relationship of employer and employee between the parties hereto. Neither Professional nor any employee of Professional shall be entitled to any benefits accorded City employees by virtue of the services provided under this agreement. The City shall not be responsible for withholding or otherwise deducting federal income tax or social security or for contributing to the state industrial insurance program, otherwise assuming the duties of an employer with respect to Professional, or any employee of Professional.

11. COVENANT AGAINST CONTINGENT FEES. The Professional warrants that he has not employed or retained any company or person, other than a *bona fide* employee working solely for the Professional, to solicit or secure this contract, and that he has not paid or agreed to pay any company or person, other than a *bona fide* employee working solely for the Professional, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this contract.

    For breach or violation of this warranty, the City shall have the right to annul this contract without liability or, in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

12. DISCRIMINATION PROHIBITED. The Professional, with regard to the work performed by it under this agreement, will not discriminate on the grounds of race, color, national origin, religion, creed, age, sex or the presence of any physical or sensory handicap in the selection and retention of employees or procurement of materials or supplies.

13. ASSIGNMENT. The Professional shall not sublet or assign any of the services covered by this Agreement without the express written consent of the City.

14. NON-WAIVER. Waiver by the City of any provision of this Agreement or any time limitation provided for in this Agreement shall not constitute a waiver of any other provision.

15. TERMINATION.

    a. The City reserves the right to terminate this Agreement at any time by giving ten (10) days written notice to the Professional.

    b. In the event of the death of a member, partner or officer of the Professional, or any of its supervisory personnel assigned to the project, the surviving members of the Professional hereby agree to complete the work under the terms of this Agreement, if requested to do so by the City. This section shall not be a bar to renegotiations of this Agreement between surviving members of the Professional and the City, if the City so

chooses.

16. DISPUTES. Any disputes that arise between the parties with respect to the performance of this Agreement, which cannot be resolved through negotiations, shall be submitted to a court of competent jurisdiction in Palm Beach County, Florida. This Agreement shall be construed under Florida Law.

17. NOTICES. Notices to the City of Boynton Beach shall be sent to the following address:

Lori LaVerriere, City Manager
City of Boynton Beach
P.O. Box 310
Boynton Beach, FL 33425-0310

Notices to Professional shall be sent to the following address:

Brian D. Ballard, President
Ballard Partners, Inc.
403 East Park Avenue
Tallahassee, FL 32301

18. INTEGRATED AGREEMENT. This agreement, together with attachments or addenda, represents the entire and integrated agreement between the City and the Professional and supersedes all prior negotiations, representations, or agreements written or oral. This agreement may be amended only by written instrument signed by both City and Professional.

19. PUBLIC RECORDS. Sealed documents received by the City in response to an invitation are exempt from public records disclosure until thirty (30) days after the opening of the Bid unless the City announces intent to award sooner, in accordance with Florida Statutes 119.07.

The City is public agency subject to Chapter 119, Florida Statutes. The Contractor shall comply with Florida's Public Records Law. Specifically, the Contractor shall:

A. Keep and maintain public records required by the CITY to perform the service;

B. Upon request from the CITY's custodian of public records, provide the CITY with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in chapter 119, Fla. Stat. or as otherwise provided by law;

C. Ensure that public records that are exempt or that are confidential and exempt from public record disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and, following completion of the contract, Contractor shall destroy all copies of such confidential and exempt records remaining in its possession once the Contractor transfers the records in its possession to the CITY; and

D. Upon completion of the contract, Contractor shall transfer to the CITY, at no cost to the CITY, all public records in Contractor's possession All records stored electronically by Contractor must be provided to the CITY, upon request from the CITY's custodian of public records, in a format that is compatible with the information technology systems of the CITY.

E. IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS:

JUDY PYLE, CITY CLERK
100 E BOYNTON BEACH BLVD.
BOYNTON BEACH, FLORIDA, 33435
561-742-6061
PYLEJ@BBFL.US

DATED this _____ day of _____, 20____.

CITY OF BOYNTON BEACH

_____ _____

Lori LaVerriere, City Manager Professional

Attest/Authenticated: _____

Title

_____ (Corporate Seal)

Judy Pyle, City Clerk

Approved as to Form: Attest/Authenticated:

_____ _____

James A. Cherof, City Attorney Secretary

EXHIBIT A
"SCOPE OF SERVICES"

Section II - SCOPE OF SERVICES:

BACKGROUND

The City of Boynton Beach, Florida, located in Palm Beach County, sits on the Atlantic coastline about 15 miles south of West Palm Beach, 32 miles north of Fort Lauderdale, and 63 miles north of Miami. With a population of approximately 68,000 Boynton Beach is the third (3rd) largest city in Palm Beach County. Boynton Beach's central location provides easy access to several airports, passenger rail, and a multitude of museums, theaters, and outdoor recreational attractions. Boynton's Oceanfront Park Beach offers a variety of swimming, picnicking, and fishing opportunities. Other local attractions include the Schoolhouse Children's Museum, Boynton Beach Mall, Mangrove Nature Park, several intracoastal water front parks including boat and kayak launches, and the only public working Marina in the Palm Beach County. The City is the home to the United Way, the Children's Services of PBC, the Literacy Coalition, and has an independent Community Redevelopment Agency for the revitalization of the downtown area.

The Commission-Manager form of government governs Boynton Beach. Voters elect a mayor and four commissioners who meet twice monthly to set forth City policy. The Commission appoints a City Manager to oversee the day-to-day operations of the City. The Mayor may live anywhere within the City limits, but is required to reside in the City for a least a year before seeking office. Commissioners must live within the district they represent and are elected by the voters within that district. They also are required to live within the district they plan to represent for at least a year before seeking office.

A. SCOPE OF SERVICES

The City of Boynton Beach seeks the services of a qualified firm(s) to assist the City in the following:

1. Acquisition of funds from non-profit organizations and public entities to enhance the City's service delivery. The required services include, but are not limited to, the following;

    a. Develop a timeline, concentration on both short term and long-term strategies, pertaining to the funding of chosen projects. Work with City staff regarding the political and financial feasibility of funding identified projects and provide advice and assistance on the type of projects that are likely to be successfully funded.

    b. Work with other organizations (both public and private) to help obtain funding for selected projects, and have the ability to effectively communicate, both orally and in writing, the necessity, benefits, and merits of funding the chosen projects for the City and its residents.

    c. Meet with members of the local, state and federal legislative delegations and their staffs to discuss the City's needs, overall benefits, and merits of the chosen projects.

2. Advise and advocate for the City on legislative and policy matters. The required services include, but are not limited to, the following:

a. Provide legislative expertise and consulting services.

b. Review and monitor on a continuing basis all existing and proposed federal, state and local policies, programs, and legislation affecting the City of Boynton Beach in an efficient and accurate manner. Identify those issues that may affect the City and its residents, and regularly inform the City as to such matters, both orally and in writing.

c. Prepare materials to be presented to legislators and agencies.

d. Appear before and provide expert testimony at legislative hearings, as required, to promote, oppose, and seek passage of legislation or rules affecting the City or its citizens.

e. Maintain excellent work relationships with federal, state and local elected officials and their staffs.

f. Meet with members of the local, state and federal legislative delegations and their staffs to explain the effects, merits, and consequences of proposed legislation on the City.

g. Advise the city on proposed and actual changes in laws, especially any changes that would affect the City's ability to collect revenues or would cause undue burdens on the City's resources.

h. Attend City Council meetings and other scheduled City meetings as requested, with reasonable advance notice.

i. Complete in a timely fashion, all forms and reports required of lobbyists by the federal government and other relevant local, state and federal jurisdictions.

Services should include but not be limited to:

- Strategy design and implementation;
- Advising and consulting clients on legislative strategies and developing issues.
- Provide research and timely written and oral information.
- Monitor existing and proposed laws and regulations that affect the interests and priorities of the City.
- Proactively recommend and develop legislative positions for proposed laws and regulations that affect the interests and priorities of the City.
- Develop a list of current or predicted legislation to either oppose or support on behalf of the City, as well as funding targets and essential Federal and Florida programs that must be protected.
- Constantly monitor the introduction and progress of proposed laws and regulations and provide analysis on the potential effects for the City.
- Assist in developing the City's stance and contact the relevant Legislators on the City's behalf to ensure they are aware of the City's position on significant legislation.
- Assistance with obtaining appropriations for City projects and/or programs to be determined as part of an annual legislative strategy.
- Propose and develop opportunities that will access funding at the policy making level.
- Arrange meetings for the City elected officials and personnel with legislative members and staff. Provide logistical support and attend those meetings when necessary.

- Representing the City's objectives and review of all pertinent pending legislation and regulations including all committee meetings, hearings and conferences.
- Identifying strategic interest alliances and coordinating interest groups.
- Drafting legislation and amendments to file bills.
- Building and maintaining close relationships and alliances with legislative delegations.
- Engage in advocacy as needed and/or requested, to promote the City's position on priority issues, including appropriate interest groups, the Florida League of Cities, US Conference of Mayors and the National League of Cities.
- Advising on public affairs, consensus building and grassroots advocacy.
- Advising on the impacts of change in relevant laws.
- Assisting in all aspects of developing and executing government business.
- Engaging in other traditional lobbying activities.

Experience should demonstrate:

- Knowledge about the legislative process at the local, state, and federal level;
- Previous public relations/lobbying experience and a network of contacts and policymakers;
- Strong communication skills to reinforce the clients' position on the issues at hand;
- The ability to respond to regulatory inquiries and testifying at public hearings;
- Good judgment and the ability to take the initiative;
- The ability to manage high levels of stress and meet critical deadlines.

B. WORK PRODUCTS REQUIRED

The successful Proposer shall provide the City with, at the minimum, monthly progress reports regarding funding and legislative issues. The subject reports shall inform and advise the City regarding any proposed and/or actual changes in laws, with particular emphasis on changes which might result in "unfunded mandates" or negatively impact the City's "home rule powers". The successful Proposer shall also keep the City informed as to local, state and federal funding progress during the month as is deemed necessary by the City Manager

C. CONFLICT OF INTEREST

The City requires that the Proposers provide professional, objective and impartial advice and at all times hold the city's interests paramount, strictly avoid conflicts with other assignments or their own corporate interests, and act without any consideration for future work. The Proposers have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interests of the City, or that may reasonably be perceived as having this effect. If the City, in its sole discretion, determines that a conflict of interest exists, esuch Proposer shall not be considered for award of this Contract. Failure to disclose said situations may lead to the disqualification of the Proposer or the termination of its Contract if the subject Proposer received this award.

The Proposer, by affixing his/her signature to the Proposal Form, declares that the Proposal is made without any previous understanding, agreement, or connections with any City official or persons, firms, or corporations making a proposal on the same items and without any outside control, collusion, or fraud. By signing the Proposal, the Proposer further declares that no City Commissioner or other City officer, or City employee owns, directly or indirectly, more than five (5) percent of the total assets or capital stock of the Proposer's entity, nor will directly or indirectly benefit by more than five (5) percent from the profits or emoluments of this Contract.

D. TERM

The initial term of the contract shall be for a period of one year commencing on October 1, 2017 and ending on September 30, 2018. The City of Boynton Beach reserves the right to renew the contract with the same terms and conditions for three (3) additional, one-year terms subject to vendor acceptance, satisfactory performance and determination that renewal will be in the best interest of the City. The City of Boynton Beach reserves the right to extend the contract 90 days beyond the contract expiration date, if needed.

REMAINDER OF THE PAGE IS INTENTIONALLY LEFT BLANK.

The City of
Boynton Beach

PROCUREMENT SERVICES
100 E. Boynton Beach Boulevard
P.O. Box 310
Boynton Beach, Florida 33425-0310
561-742-6310
Fax: (561) 742-6316

NOTICE OF INTENT TO NEGOTIATE/AWARD

SOLICITATION NO. **RFP NO. 071-1210-17/IT**
SOLICITATION TITLE: **APPROPRIATION LOBBYIST SERVICES**
DATE OF NOTICE: **October 27, 2017**

At the Selection Committee meeting of October 27, 2017, the Selection Committee for the above referenced solicitation scored and ranked the firms as follows:

RANKING: **1.** **BALLARD PARTNERS, INC.**
2. **THE MERCHANT STRATEGY, INC.**

This Intent to Award will be presented to City Commission as a recommendation to approve the Selection Committee Rankings and award a contract to the first-ranked firm: BALLARD PARTNERS, INC.

This Notice is conditioned upon and subject to the City of Boynton Beach's reservation of rights as contained in the RFP documents and approval by the City Commission.

In accordance with Section 2-355 of the Palm Beach County Code of Ordinances, the Cone of Silence remains in effect for this solicitation until award, rejection or other action is taken by the applicable award authority to otherwise end the solicitation process.

Submitted by:

Hyse Triestman, CPPO, CPPB, FCCN
Purchasing Manager

RFP FOR "APPROPRIATIONS LOBBYIST SERVICES"

RFP No.: 071-1210-17/IT

SUMMARY OF REVIEWERS SCORES - EVALUATION COMMITTEE MEETING (INITIAL RANKING/SHORTLIST) - 10/27/17 at 10:00 AM

NAME:		PRICE PROPOSAL MAX - 35	QUALIFICATIONS OF THE FIRM AND EXPERIENCE OF ASSIGNED PERSONNEL MAX - 25	METHODOLOGY AND APPROACH MAX - 25	REFERENCES FROM GOVERNMENTAL AGENCIES IN THE STATE OF FLORIDA MAX - 15	TOTALS MAX - 100	RANKING
BALLARD PARTNERS							
T. HOWARD		30.00	24.00	24.00	15.00	93.00	
J. DURGAN		30.00	25.00	20.00	15.00	90.00	**1**
M. FREDERIKSEN		30.00	25.00	23.00	15.00	93.00	
TOTAL ALL EVALUATORS						**276.00**	
THE MERCHANT STRATEGY, INC.							
T. HOWARD		35.00	21.00	20.00	12.00	88.00	
J. DURGAN		35.00	20.00	20.00	10.00	85.00	**2**
M. FREDERIKSEN		35.00	20.00	25.00	10.00	90.00	
TOTAL						**263.00**	

Tabulated by Ilyse Triestman, 10.27.17

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-106 - Authorize the City Manager to sign and apply for a grant from the Solid Waste Authority for a Rolling Green Gate Project.

EXPLANATION OF REQUEST:
Application Deadline: November 9, 2017

On October 5th, the Solid Waste Authority released a Blighted and Distressed Property Clean-up and Beautification (BDPCB) Grant Application. The grant is intended to assist in the cleanup and beautification of distressed, blighted or otherwise impacted properties. The grant is offered as an incentive to improve the quality of the life and provide a safer, healthier and more aesthetically pleasing environment for the residents.

The Public Works Department's eligible project consists of installing an industrial gate on the Rolling Green Dumpster Site. This project is not in the City's 2017/2018 Capital Improvement Plan and would only be added to the plan if the City was awarded grant funding. This request is to make a resolution approving staff's application for a grant from the Solid Waste Authority for a Rolling Green Gate Project. If the grant is received the City will amend the Capital Improvement Plan to include funding for the project.

This project is needed to make the site more secure and prevent fly dumping, graffiti, and theft of City owned trash cans. To no avail the Staff, in the past, has used chains and locks to secure the existing gate. Each time the locks are found cut at the base of the gate.

If the City receives the Grant another resolution to amend the budget would be required in January 2018. Staff notes that this grant program was successfully used by the City and CRA to provide landscaping and painting around the City's Public Work Compound on NE 9th Ave.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? If the BDPCB grant is awarded to the City, Capital funds will be diverted from an existing capital project and applied to the Rolling Green Gate Project. The grant funded project will be completed by September 2018 and within 10 months of the grant award. The grant award is anticipated in January 2018; the project would begin in March 2018.

FISCAL IMPACT: Non-budgeted If awarded the Grant the total project cost is estimated at $32,000. The City's portion would be a minimum of $16,000.

ALTERNATIVES:
As an alternative, the City does not need to apply for the BDPCB grant.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? Yes

Grant Amount: up to $16,000

ATTACHMENTS:

	Type	Description
🗋	Resolution	Resolution approving application for grant funds for the Rolling Green Gate Project
🗋	Attachment	SWA Blighted Property Grant
🗋	Attachment	Rolling Green Gate Budget

RESOLUTION NO. R17-____

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, APPROVING AND AUTHORIZING THE CITY MANAGER TO SIGN AND APPLY FOR A GRANT FROM THE SOLID WASTE AUTHORITY FOR A ROLLING GREEN GATE PROJECT; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, on October 5 the Solid Waste Authority released a Blighted and Distressed Property Clean-up and Beautification Grant Application; and

WHEREAS, the grant is intended to assist in the clean-up and beautification of distressed, blighted or otherwise impacted properties; and

WHEREAS, the grant is offered as an incentive to improve the quality of the life and provide a safer, healthier and more aesthetically pleasing environment for the residents; and

WHEREAS, the Public Works Department project eligible for the grant consists of installing an industrial gate on the Rolling Green Dumpster site which will make the site more secure and prevent fly dumping, graffiti and theft of City owned trash cans.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof.

Section 2. The City Commission approves and authorizes the City Manager to sign and apply for a grant from the Solid Waste Authority for a Rolling Green Gate Project.

Section 3. This Resolution shall become effective immediately upon passage.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

BLIGHTED AND DISTRESSED PROPERTY CLEAN-UP AND BEAUTIFICATION GRANT APPLICATION

Issue Date:
October 5, 2017

THE SOLID WASTE AUTHORITY OF PALM BEACH COUNTY
7501 NORTH JOG ROAD
WEST PALM BEACH, FLORIDA 33412
(561) 640-4000

TABLE OF CONTENTS

1.0 Introduction **3**

1.1 General Background **3**
1.2 Solid Waste Authority Objectives **3**
1.3 Eligibility Requirements **3**

2.0 Application Process **5**

2.1 Process Overview **5**
2.2 Application Deadline **5**
2.3 Application Instructions **6**
2.4 Award **8**
2.5 Review Criteria **9**
2.6 Other **9**

Forms

Application Checklist **11**
Application Form **12**
Sample Budget Form **13**
Budget Form **14**

1.0 INTRODUCTION

1.1 GENERAL BACKGROUND

The Solid Waste Authority of Palm Beach County ("Authority") is the governmental agency responsible for providing an economical and environmentally conscious integrated Solid Waste Management System for Palm Beach County, Florida. The Authority provides solid waste disposal and recycling services and programs to the County's 1.4 million residents and businesses.

1.2 OBJECTIVE:

The Solid Waste Authority of Palm Beach County ("Authority") Governing Board has allocated $500,000 for grants for the 2017-2018 fiscal year. This grant is intended to assist in the cleanup and beautification of distressed, blighted or otherwise impacted properties within both the unincorporated and incorporated areas of Palm Beach County. This grant is offered as an incentive to improve the quality of the life and provide a safer, healthier and more aesthetically pleasing environment for the residents.

Therefore, the Authority is requesting Municipalities, Community Development or Redevelopment Districts, Special Districts or other Governmental Entities ("Applicants") to submit application packages for projects that meet the criteria to qualify for grant funding, and for which the Applicant would like to receive grant funding.

1.3 ELIGIBILITY REQUIREMENTS:

A. Eligible Projects:

The property must be under the ownership and control of the Applicant. Also, to be considered for this grant program, projects must be located in Palm Beach County, visible, accessible and beneficial to the surrounding community, capable of being completed within twelve (12) months, and the property should be:

- Distressed or blighted with/without derelict or damaged structures, or with structures requiring maintenance or repairs; or
- Subject to trespass or illegal entry; or,
- Subject to chronic illegal dumping or littering; or,
- Otherwise eligible at the discretion of the Authority.

B. General Requirements:

1. Entities may apply for multiple projects. However, funding is approved on an annual basis by the Authority Board and no guarantee of future funding of projects is provided for additional years. Subject to availability of funds, the Authority reserves the right to conduct multiple application periods.

2. Examples of Projects and activities that would qualify:

    - Recycling, hauling and disposal costs associated with the demolition of derelict/abandoned structures;
    - Recycling, hauling and disposal costs associated with land clearing/landscape improvement projects;
    - Recycling, hauling and disposal costs associated with litter cleanup of land and waterways;
    - Recycling, hauling and disposal costs associated with vacant lot cleanup;
    - Projects or Activities that mitigate illegal dumping, including lighting, fencing and gate installation.
    - Costs of other beautification, cleanup or maintenance projects that may be approved.

3. Examples of Projects and activities that would not qualify:

    - **Projects on private property;**
    - Projects with incomplete applications;
    - Projects on property without the property owner's consent;
    - Projects that otherwise have a dedicated funding source (e.g., road and bridge projects);
    - Projects that lack a significant recycling and/or solid waste management (hauling and disposal) component.

2.0 APPLICATION PROCESS

2.1 Process Overview

This application process is not a procurement. The purpose of this process is to provide an opportunity for Municipalities, Community Development or Redevelopment Districts, Special Districts or other Governmental Entities within Palm Beach County ("Applicants") to receive a grant from the Solid Waste Authority of Palm Beach County ("Authority") for funds to assist in the cleanup or beautification of distressed, blighted or otherwise impacted properties within their jurisdiction.

Applications received through this process will be reviewed, and subject to available funding, applicants may be awarded a Grant under the program. The Authority, in its sole discretion, will determine which projects will receive grant funding and the amount of that funding.

The Authority is pleased to offer assistance in the preparation of your Application. Applicants seeking assistance may contact John Archambo, Director of Customer Relations, at (561) 697-2700, extension 4725.

2.2 Application Deadline

The Authority requests that applications be submitted no later than 5:00 p.m. E.S.T. on November 9, 2017 via mail, email or hand delivered. Late applications may not be accepted. Subject to availability of funding, the Authority may conduct additional application periods.

Applications shall include the attached application and all requested supporting information. Incomplete applications will be rejected. The Applicant shall provide sufficient background on the projects to allow the Authority to determine eligibility for the grant program. The Applicant shall identify the means and methods by which the project will be accomplished and an estimate of the total cost necessary to accomplish the project.

Applications shall be submitted to:

By Mail or Hand Delivered: Customer Information Services
Solid Waste Authority of PBC
Director of Customer Relations
7501 N. Jog Road
West Palm Beach, FL 33412

By Email: jarchambo@swa.org
Email Subject Line: 2018 Blighted Property Grant Application

2.3 Application Instructions

I. General Information

The Applicant must be a governmental entity as defined in Section 1.2. Applicant shall complete and return the Blighted Property Grant Application provided on Page 12 and all other information requested, including a requested Grant amount. This amount should, together with any other funding identified, be sufficient to accomplish the project. In addition to Grant funds requested, the Applicant should identify in Section VII of the Application any other sources of funding committed to the project and the value of in-kind or force account labor, materials and services to be provided by entities other than the Authority using the Budget Form provided or a reasonable equivalent. The Authority reserves the right to offer a lesser amount to the Applicant.

II. Description of the Project

Applicant shall provide a description of the objective for the project and the end state of the property at the completion of the project. Also, identify the potential benefits to the community adjacent to the property and at large; provide a description of any activity to recycle wastes produced by the project; and, identify the solid waste hauling and disposal activities associated with the project. The Applicant shall clearly demonstrate that the project meets the eligibility criteria.

If the work will be accomplished through the use of contractors, the method of procurement of contractor services should be identified. If force account labor of the Applicant will be used for all or part of the project, the tasks proposed to be undertaken by force account labor should be identified. If volunteer services are proposed to be used for any part of the project, the Applicant should identify the agencies or organizations which may serve as a source of volunteers and provide documentation of their commitment to provide those services. The general scope of activities that may be undertaken by volunteers should be identified.

III. Estimated Timeframe for Completion

The Applicant shall identify the timeframe for completion, including the project initiation date and the project completion date. If a competitive procurement will be part of the project, an estimate of the process time should be provided. Any approved grant will be paid out in phases beginning with the actual start of the project (e.g., Notice of

Commencement, Construction Start, Contractor Mobilization, or other milestone as defined in the Interlocal Agreement that the parties will enter into) and ending with final completion.

IV. Project Schedule

Applicant shall provide a project schedule in the format provided below to include the project start date and project completion date, and as applicable, any other significant milestone dates related to for example, permitting, design, procurement, and contractor mobilization.

Task	Start Date	Completion Date	Entity Responsible

V. Project Location

Applicant shall provide the physical location/address of the property and the Parcel Control Number. Applicant shall attach to the Application photographs of the proposed project area, a plan or map depicting the project area and the relationship to the surrounding neighborhood/community. The photographs shall clearly demonstrate the condition of the project area and the appearance of the project area as viewed by the surrounding neighborhood/community.

VI. How Will the Project be Maintained

Applicant will be required to provide for the maintenance and upkeep of the project, including as applicable watering, weeding, mowing, cleaning, repairing, painting and refinishing. Applicant shall clearly identify how the project, once complete, will be maintained to prevent it from reverting back to its current state. Applicants that fail to properly maintain the project shall be deemed ineligible for any future grants provided by the Authority under this or any other future program offered by the Authority. The Authority will require a commitment of resources in the form of financial, force account labor, volunteers, or organizational sponsors/partners to ensure that the project location does not revert back to its current state. If volunteers or organizational sponsors/partners are to be used, Applicant shall provide documentary evidence such as letters

of commitment from these organizations.

VII. Project Budget

Applicant shall provide a budget for the project identifying in as much detail as possible the project tasks, estimated costs and sources of funding for the project. It is not the Authority's intent to provide 100% of the funding for a project, but rather to supplement other funding committed to the project, including but not limited to governmental funding, donations, force account labor, volunteer labor and other grants. If grant funds will be obtained from other sources, please indicate if funds have been obtained or the estimated date when funds will be received.

Applicant should use the attached form provided on Page 14 or a reasonable equivalent. Please attach evidence of all sources of funding/labor (governing board action, letters from community organizations, etc.). Applicant will be required to track and report project expenditures and status throughout the project as required in the Interlocal Agreement that the parties will enter into.

2.4 Award:

A. The Authority anticipates to award grants to the Applicant(s) who submit proposals judged by the Authority to be the most consistent with project eligibility criteria in accordance with the Review Criteria.

B. The Authority reserves the right to negotiate a revised Grant amount price with the awarded Applicant(s).

C. Neither acceptance nor approval of an Application constitutes an agreement or a contract. Any grant funding provided pursuant to this process will be provided in accordance with the terms and conditions of an Interlocal Agreement.

D. The Authority intends to enter into Grant agreements in the form of an Interlocal Agreement between the Authority and the Applicant. Grant agreements shall be approved by the Authority Governing Board.

2.5 Review Criteria

Applications will be reviewed for completeness and compliance with the eligibility and other requirements of the program. Applications will be provided to the Authority Board for award. The Authority Board, in its sole discretion, will determine which projects will receive grant funding and the amount of that funding.

2.6 Other

A. All costs associated with the preparation of this Application are the sole responsibility of the Applicant. In no event shall the Applicant have a claim against the Authority, its staff or its consultants or agents for reimbursement of any such costs or expenses.

B. The Applicant is responsible for obtaining all necessary permits and approvals associated with the project.

C. The Applicant is solely responsible for the project. The Authority assumes no responsibility or liability, other than providing the agreed upon funding, for the conduct, completion and condition of the property before, during or after project completion.

D. The Applicant will be expected to enter into an Interlocal Agreement with the Authority that will represent the entirety of the Agreement between the parties.

E. The Authority reserves the right to rescind funding in the event the Applicant fails to execute the project or fails to secure the necessary funds to fully execute the project.

F. The Authority reserves the right to offer multiple grants and to offer less funding than requested by the Applicant in order to maximize the county-wide benefit of the program.

G. This process is not a competitive procurement and is not subject to the Cone of Silence provisions of the Authority Purchasing Manual. The Authority reserves the right to meet with and communicate with Applicants prior to the submittal deadline, after proposals are received and after grant awards are announced.

BLIGHTED AND DISTRESSED PROPERTY CLEAN-UP AND BEAUTIFICATION GRANT APPLICATION

BEFORE SEALING YOUR APPLICATION MAKE SURE THE FOLLOWING ARE INCLUDED

- ❑ 1. Description of the objective for the project and end state of the property at completion of the project.
- ❑ 2. Timeframe for completion of the project.
- ❑ 3. Project schedule identifying all major activities.
- ❑ 4. Identification of the project location including the Parcel Control Number that clearly documents ownership and control by the Applicant.
- ❑ 5. Photographs of the Project Area.
- ❑ 6. Plan or Map of the Project Area.
- ❑ 7. Discussion of the plan to maintain the project location upon completion.
- ❑ 8. Project Budget.
- ❑ 9. All other pertinent information for consideration.
- ❑ 10. Carefully read *all* Documents, and properly complete and execute the Application Form. (*Failure to properly complete and sign this document may be cause for rejection of the application)*
- ❑ 11. Submit one (1) original and one (1) copy of your application to the Solid Waste Authority prior to the application deadline. Applications submitted after the deadline may be rejected.

Solid Waste Authority of Palm Beach County
Blighted Property Grant Application

I. General Information

1. Project Title: _____

2. Applicant Name: _____
(Governmental Entity)

3. Contact Person: _____

4. Telephone: _____ Alternate #_____

5. Mailing Address: _____

_____

6. Email Address: _____

7. Federal Tax Identification #: _____

8. Grant Amount Requested from SWA: _____

I certify that the above information is correct and that I am authorized to submit this application.

Signature of Applicant: _____

Name of Applicant (printed): _____

Title: _____Date:_____

SAMPLE BUDGET FORM

Materials Services Description	Quantity	Unit cost	Sales tax	Other Charges (If any)	TOTAL	Other Funding Sources			
						Cash (a)	Donations (b)	Private Grants (c)	Grant Request (d)
Sabal Palms	4	$75.00	$18.00	$20.00	$338.00		$50.00	$150.00	$138.00
Security lighting	1	$500.00	$30.00		$530.00				$530.00
Transport services	20	$150.00			$3,000.00				$3,000.00
Demolition services	1	$2,000.00			$2,000.00				$2,000.00
Insurance	1	$100.00			$100.00			$100.00	$0.00
Disposal services	20	$300.00			$6,000.00				$6,000.00
				TOTALS	$11,968.00	$0.00	$50.00	$250.00	$11,668.00
Total Grant Request (d)					$11,668.00				
Total Project Cost (a+b+c+d)					$11,968.00				

BUDGET FORM

Materials/Services Description	Quantity	Unit cost	Sales tax	Other Charges (If any)	TOTAL	Funding Sources			
						Cash (a)	Donations (b)	Private Grants (c)	Grant Request (d)

				TOTALS					
Total Grant Request (d)									
Total Project Cost (a+b+c+d)									

Rolling Green Dumpster Site - Gate Project

Engineer's Estimate of Cost

Item No.	Item	Budget Cost
1	Site Preperation	$1,500
2	Removal of the tree that is located on the inside of the fence	$400
3	Sod	$600
4	Electrical brought to the site.	$1,500
5	Canteleaver Gate	$20,000
6	Stand Alone Access Reader	8,000
		$32,000

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-107 - Approve and authorize the Mayor to sign an agreement with the City of Lake Worth and AL Hypoluxo, LLC to provide wastewater service to a parcel on the Northeast corner of Hypoluxo Road and High Ridge Road.

EXPLANATION OF REQUEST:
In 2014, the City of Boynton Beach executed an agreement with the City of Lake Worth and Hypoluxo & I-95 Holdings, LLC to provide water and sewer service to a property at the northeast corner of Hypoluxo Road and High Ridge Road. The property is located within the City of Lake Worth's utility service area, and Lake Worth will provide potable water service. However, Lake Worth does not currently have sanitary sewer lines in the area. Although the property is not in the City of Boynton Beach's service area, Boynton Beach maintains sanitary sewer lines in the vicinity of the site, which can be extended to allow connection to Boynton Beach's sanitary sewer system in order to provide wastewater service.

The 2014 agreement contained provisions to also provide service to the adjacent property to the east, which is owned by AL Hypoluxo, Inc. This agenda item request is to approve an agreement with AL Hypoluxo, Inc.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
There will be no adverse impact to the services provided by Boynton Beach Utilities. The City of Lake Worth will become a customer of Boynton Beach, and will be responsible for remitting payment to Boynton Beach for the wastewater services provided to the project. In turn, Lake Worth will bill Hypoluxo & I-95 Holdings, LLC and AL Hypoluxo, LLC for the wastewater services that are provided.

This agreement will be in effect until such time as Lake Worth extends its sanitary sewer facilities to the site and available for hook-up, at which time AL Hypoluxo, LLC will disconnect from Boynton Beach's facilities and connect to Lake Worth's facilities within the timeframe stipulated in the agreement.

FISCAL IMPACT: Non-budgeted Hypoluxo & I-95 Holdings, LLC and AL Hypoluxo, LLC have agreed to pay the cost of extensions and improvements to Boynton Beach's sanitary sewer system and to pay connection and service charges in accordance with Lake Worth's Code of Ordinances. The City of Lake Worth will open an account and become a customer of Boynton Beach while this agreement is in effect.

ALTERNATIVES: Not approve the agreement with AL Hypoluxo, LLC.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Resolution	Resolution approving Agreement for wastewater service with AL Hypoluxo
Agreement	Agreement with AL Hypoluxo, LLC
Agreement	Original Agreement with Hypoluxo & I-95 Holdings

RESOLUTION NO. R17-

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, APPROVING AN AGREEMENT WITH THE CITY OF LAKE WORTH AND AL HYPOLUXO, LLC, TO PROVIDE WASTEWATER SERVICE TO A PARCEL ON THE NORTHEAST CORNER OF HYPOLUXO ROAD AND HIGH RIDGE ROAD; AUTHORIZING THE MAYOR TO SIGN THE AGREEMENT; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, in 2014 the City executed an agreement with the City of Lake Worth and Hypoluxo & I-95 Holdings, LLC., to provide water and sewer service to a property at the northeast corner of Hypoluxo Road and High Ridge Road; and

WHEREAS, the agreement contained provisions to also provide service to the adjacent property to the east, which is owned by AL Hypoluxo, Inc.; and

WHEREAS, this agreement will be in effect until such time as Lake Worth extends its sanitary sewer facilities to the site and are available for hook-up; and

WHEREAS, the City Commission has determined that it is in the best interests of the residents of the City to approve an Agreement with the City of Lake Worth and AL Hypoluxo, LLC., to provide wastewater service to a parcel on the northeast corner of Hypoluxo Road and High Ridge Road.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof.

Section 2. The City Commission does hereby approve and authorize the Mayor to sign an Agreement with the City of Lake Worth and AL Hypoluxo, LLC., to provide

wastewater service to a parcel on the northeast corner of Hypoluxo Road and High Ridge Road, a copy of the Agreement is attached hereto as Exhibit "A".

Section 3. This Resolution shall become effective immediately upon passage.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

AGREEMENT

THIS AGREEMENT is made on this 17th day of October, 2017 between the CITY OF BOYNTON BEACH, a Florida municipal corporation located in Palm Beach County, Florida, hereinafter referred to as "Boynton Beach," or "City of Boynton Beach", the CITY OF LAKE WORTH, a Florida municipal corporation located in Palm Beach County, Florida, hereinafter referred to as "Lake Worth" or "City of Lake Worth" and AL Hypoluxo, LLC, a Florida limited liability company, whose post-office address is 360 Columbia Drive, Suite 102, West Palm Beach, FL 33409, hereinafter referred to as "Owner". When used herein, Boynton Beach, Lake Worth and Owner shall be deemed to include all of their respective successors and assigns.

WHEREAS, Section 163.01, Florida Statutes, known as the "Florida Interlocal Cooperation Act of 1969," authorizes local governments and public agencies to enter into interlocal agreements with each other to jointly exercise any power, privilege, or authority which such agencies share in common and which each might exercise separately; and

WHEREAS, Section 171.203, Florida Statutes, authorizes the governing bodies of municipalities to enter into interlocal Service Boundary Agreements concerning wastewater[1] service delivery and treatment; and

WHEREAS, Owner owns those properties, as described in Exhibit "A" attached hereto and incorporated herein, located within unincorporated Palm Beach County, and is presently, or will hereafter be, engaged in plan review and subsequently plans to develop and improve said properties (said properties being hereinafter referred to as the "Properties"), and which Properties are the "Adjacent Property" as defined in that certain Agreement dated October 10, 2014 between Hypoluxo & I-95 Holdings LLC, a Florida limited liability company ("Holdings"), Lake Worth and Boynton Beach (the "Existing Agreement"); and

WHEREAS, the Properties are located within the Lake Worth utility service area, but Lake Worth does not currently have sanitary sewer lines in the vicinity of the Properties; and

WHEREAS, Owner has requested permission from Lake Worth to obtain such provisional sewer service from Boynton Beach's sanitary sewer facilities; and

WHEREAS, the Properties are outside Boynton Beach's utility service area but Boynton Beach does maintain sanitary sewer lines in the vicinity of the Properties which can be extended to allow the Properties to connect to Boynton Beach's sanitary sewer system, in turn allowing the Properties to receive wastewater service; and

WHEREAS, Boynton Beach has agreed to provide sanitary sewer/wastewater service to the Properties; and

---

[1] The term sanitary sewer system is synonymous with wastewater treatment system.

WHEREAS, Lake Worth will bill the owner(s) and/or tenant(s) (as applicable in accordance with applicable party maintaining a potable water utility account(s) for such Properties or portion(s) thereof), and their respective successors and assigns (such a party being herein referred to as "End User"), of the Properties for wastewater services (such party herein referred to as "End User"); and

WHEREAS, Lake Worth will become a customer of Boynton Beach for wastewater services, and will be responsible for remitting payment to Boynton Beach for the wastewater services provided to the Properties; and

WHEREAS, Boynton Beach, Lake Worth, and Owner have agreed to enter into this Agreement which will allow Boynton Beach to temporarily extend sanitary sewer lines to the Properties located in Lake Worth's utility service area, subject to the terms of this Agreement; and

WHEREAS, Such provisional hook-up shall continue only until such time as Lake Worth provides for the installation of its sewer facilities adjacent to the Properties and available for hook-up, at which time Owner shall disconnect from Boynton Beach's facilities and connect to Lake Worth's facilities within 90 days of notification by Lake Worth of the availability of its facilities; and

WHEREAS, Owner has agreed to pay the cost of extensions and improvements, as shown in Exhibit "B", attached hereto and incorporated herein, to Boynton Beach's sanitary sewer system to service its respective Properties and, to pay connection and service charges with respect to such Properties as provided by Lake Worth Code or regulation; and

WHEREAS, Owner shall contract only with Lake Worth for all potable water service.

NOW, THEREFORE, in consideration of the mutual representations, terms, and covenants hereinafter set forth, the parties hereby agree as follows:

1. The foregoing whereas clauses are true and correct and represent material provisions of this Agreement.

2. Lake Worth agrees that Boynton Beach shall provide sanitary sewer lines to the Properties, which Properties are located within Lake Worth' Service Area.

3. Boynton Beach agrees to maintain those sanitary sewer lines servicing the Properties to the extent located to the south of Hypoluxo Road, with Lake Worth agreeing to maintain those sanitary sewer lines servicing the Properties to the extent located to the north of Hypoluxo Road.

4. Lake Worth shall invoice the End User of the Properties for the wastewater utility service provided to the Properties. Lake Worth shall be responsible for remitting payment for such services to Boynton Beach

5. Boynton Beach agrees to provide treatment of wastewater discharged from the Properties.

6. The cost to Owner for increasing the capacity of Boynton Beach's and/or Lake Worth's sewer transmission system, so as to accommodate the additional flow from the Properties, shall not exceed $10,000, due and payable at the time of the Palm Beach County Health Department permitting plan submittal for the work described on the attached Exhibit "B" to the City of Boynton Beach. All other costs associated with Owner extending the sewer system to the Properties shall be borne by Owner, provided the foregoing shall not be deemed to be an assumption by Owner of any costs, expenses or fees otherwise due and payable under the Existing Agreement.

7. Owner agrees to pay all connection charges imposed by Lake Worth, with respect to the Properties as set forth in the City of Lake Worth Code or regulation. Following connection to the Boynton Beach sanitary sewer system, End User(s) shall pay commercial waste water rates charged by Lake Worth for properties inside the City of Lake Worth Service Area (sometimes hereinafter referred to as "Waste Water Charge").

8. Owner agrees to grant a sanitary sewer easement with respect to operation and maintenance of the wastewater improvements described on Exhibit "B". Owner agrees to operate and maintain in perpetuity all private wastewater improvements (to the extent located on the Properties and not otherwise dedicated or conveyed to Lake Worth or Boynton Beach.

9. In addition to other provisions contained herein, this Agreement constitutes an Interlocal Agreement between the City of Boynton Beach and the City of Lake Worth for cooperation and service boundaries for wastewater treatment entered into pursuant to The Florida Interlocal Cooperation Act of 1969 and Section 171.203, Florida Statutes.

10. Such provisional hook-up shall continue only until such time as Lake Worth has provided for the installation and makes available its own sanitary sewer lines to the Properties, at which time Owner shall disconnect from Boynton Beach's sewer facilities and connect to Lake Worth's sewer facilities within ninety (90) days of notification by Lake Worth of the availability of its facilities.

11. Upon disconnection from Boynton Beach's sewer facilities and connection to Lake Worth's sewer facilities, (a) End User shall pay all outstanding charges with respect to the Properties due to Lake Worth in accordance with this Agreement, (b) Lake Worth agrees to remit final payment to Boynton Beach, (c) Boynton Beach agrees to convey by absolute Bill of Sale whatever portion of said facilities Lake Worth desires to have at that time, together with necessary easements for repair and maintenance and (d) End User shall further pay to Lake Worth the regular sanitary sewer service charges imposed with respect to the Properties by Lake Worth, as same may be changed or modified from time to time.

12. Nothing herein is intended to advance or support any annexation effort by either Boynton Beach or Lake Worth with respect to the Properties.

13. Lake Worth shall be responsible for providing water service utility to the Properties in accordance with the ordinances, resolutions and procedures of Lake Worth

applicable to water service customers.

14. Boynton Beach shall make no attempt to expand its sewer service area(s) by virtue of said provisional connection, nor make any claim of right adverse to that of Lake Worth by virtue of said provisional hook-up.

15. Except as provided in Section 16 of this Agreement, Owner shall not sell, lease or give any right or privilege to utilize its sanitary sewer facilities to any other person whose property is outside that described herein nor allow any such connection to such person whose property is outside that described herein, without the written agreement of Lake Worth and Boynton Beach.

16. Notwithstanding anything contained in this Agreement to the contrary, Owner, Lake Worth and Boynton Beach agree to the following provisions:

(a) With respect to the Existing Agreement:

(1) This Agreement shall be deemed to satisfy the condition outlined in Section 16(b)(1) of the Existing Agreement, and otherwise be considered the "Adjacent Property Agreement" (as defined in the Existing Agreement).

(2) Lake Worth agrees to open a new customer account for the purposes of memorializing the additional sale by Boynton Beach to Lake Worth of wastewater utility service with respect to the Properties, subject to the terms, conditions and obligations under this Agreement.

(3) Owner, for the purposes of making the Adjacent Property Connection (as defined in the Existing Agreement), would still be required, along with Holdings, to enter into and record the Adjacent Property Easement (as defined in the Existing Agreement).

(4) Nothing contained in this Agreement shall be deemed binding or an encumbrance on the Existing Agreement Property.

17. This agreement shall take effect upon execution by all parties.

18. In the event a court of competent jurisdiction hereof holds any section, paragraph, sentence, clause, or provision to be invalid, such holding shall not affect the remaining portions of this Agreement, and the same shall remain in full force and effect.

19. This Agreement represents the entire understanding between the parties, concerning the subject, and supersedes all other negotiations, representations, or agreements, either written or oral, relating to this Agreement.

20. All of the covenants, benefits, and agreements herein will constitute covenants running with the land, and will be binding upon any and all individuals and entities, their respective successors in interest, assigns, heirs, and personal representatives, having or hereafter acquiring any right, title, or interest in and to all or a portion of the Properties. Responsibility for the

performance of any duty or obligation of Owner (as the owner of the Properties) and any subsequent owner of the Properties (or portion thereof) will be incidental to ownership of all or any portion of the Properties and will pass to successors or assigns concurrently with the conveyance thereof. Furthermore, liability of Owner (as the owner of the Properties) and any subsequent owner of the Properties (or portion thereof) will be limited to the Properties (or portion thereof) it owns and that period of time during which it owns such Properties (or portion thereof).

[SIGNATURES ON NEXT PAGE]

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

ATTEST:

By: _____
Deborah M. Andrea
City Clerk

(Seal)

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

_____ FOR
Glen Torcivia
City Attorney

CITY OF LAKE WORTH, a Florida Municipal Corporation

By: _____
Pam Triolo
Mayor

ATTEST:

_____
Judith Pyle, CMC
City Clerk

(Seal)

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

_____
James A. Cherof
City Attorney

CITY OF BOYNTON BEACH, a Florida Municipal Corporation

_____
Steven B. Grant
Mayor

AL Hypoluxo, LLC,

_____
Witness Jeff Z. Ito

_____
Witness Donna Scully

By: _____
Name: Joseph D. Lelonek
Title: Manager

Exhibit " A"

The West Half (W 1/2) of the East Half (E 1/2) of the Southwest Quarter (SW 1/4) of the Southwest Quarter (SW 1/4) of Section 4, Township 45 South, Range 43 East, Palm Beach County, Florida, LESS the North 1019.90 feet thereof, as measured along the East and West lines of the West Half (W 1/2) of the East Half (E 1/2) of the Southwest Quarter (SW 1/4) of the Southwest Quarter (SW 1/4) of Section 4, and LESS the Right-of-Way for I-95.

Parcel Control Numbers: 00-43-45-04-00-000-7340 & 00-43-45-04-00-000-7350.

Exhibit "B"

Description of Improvements and Extensions

- Sewer extension and connection to connect Properties, by and through the improvements and extensions required to be constructed by Holdings under the Existing Agreement (the "Existing Agreement Improvements"), to Boynton Beach's sanitary sewer system to service its respective.
- Engineering, permitting, testing, etc. required for the above work

RESOLUTION NO. R14-096

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, APPROVING AN AGREEMENT WITH THE CITY OF LAKE WORTH AND HYPOLUXO & I-95 HOLDINGS, LLC., TO PROVIDE WASTEWATER SERVICE TO A PARCEL ON THE NORTHEAST CORNER OF HYPOLUXO ROAD AND HIGH RIDGE ROAD; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, Hypoluxo & I-95 Holdings, LLC., owns parcels of land within unincorporated Palm Beach County at the northeast corner of Hypoluxo Road and High Ridge Road and is currently in plan review with Palm Beach County to develop the properties; and

WHEREAS, the project is located within the City of Lake Worth's utility service area; and

WHEREAS, Lake Worth can provide potable water service but does not currently have sanitary sewer lines in the area; and

WHEREAS, Boynton Beach maintains sanitary sewer lines in the vicinity of the site which can be extended, at Hypoluxo & I-95 Holdings, LLC's costs, to allow Hypoluxo & I-95 Holdings, LLC., to connect to Boynton Beach's sanitary sewer system in order to provide wastewater service; and

WHEREAS, the City Commission has determined that it is in the best interests of the residents of the City to approve an Agreement with the City of Lake Worth and Hypoluxo & I-95 Holdings, LLC., to provide wastewater service to a parcel on the northeast corner of Hypoluxo Road and High Ridge Road.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof.

Section 2. The City Commission does hereby approve and authorize the Mayor and City Clerk to execute an Agreement with the City of Lake Worth and Hypoluxo & I-95 Holdings, LLC., to provide wastewater service to a parcel on the northeast corner of Hypoluxo Road and High Ridge Road, a copy of the Agreement is attached hereto as Exhibit "A".

Section 3. This Resolution shall become effective immediately upon passage.

PASSED AND ADOPTED this 7th day of October, 2014.

CITY OF BOYNTON BEACH, FLORIDA

Mayor – Jerry Taylor

Vice Mayor – Joe Casello

Commissioner – David T. Merker

Commissioner – Mack McCray

Commissioner – Michael M. Fitzpatrick

ATTEST:

Janet M. Prainito, MMC
City Clerk

(Corporate Seal)

R14-096

AGREEMENT

THIS AGREEMENT is made on this 10th day of October, 2014 between the CITY OF BOYNTON BEACH, a Florida municipal corporation located in Palm Beach County, Florida, hereinafter referred to as "Boynton Beach," or "City of Boynton Beach", the CITY OF LAKE WORTH, a Florida municipal corporation located in Palm Beach County, Florida, hereinafter referred to as "Lake Worth" or "City of Lake Worth" and HYPOLUXO & I-95 HOLDINGS LLC, a Florida limited liability company, whose post-office address is 360 Columbia Drive, Suite 102, West Palm Beach, FL 33409, hereinafter referred to as "Holdings". When used herein, Boynton Beach, Lake Worth and Holdings shall be deemed to include all of their respective successors and assigns.

WHEREAS, Section 163.01, Florida Statutes, known as the "Florida Interlocal Cooperation Act of 1969," authorizes local governments and public agencies to enter into interlocal agreements with each other to jointly exercise any power, privilege, or authority which such agencies share in common and which each might exercise separately; and

WHEREAS, Section 171.203, Florida Statutes, authorizes the governing bodies of municipalities to enter into interlocal Service Boundary Agreements concerning wastewater[1] service delivery and treatment; and

WHEREAS, Holdings owns those properties, as described in Exhibit "A" attached hereto and incorporated herein, located within unincorporated Palm Beach County, and is presently engaged in plan review and subsequently plans to develop and improve said properties (said properties being hereinafter referred to as the "Properties"); and

WHEREAS, the Properties are located within the Lake Worth utility service area, but Lake Worth does not currently have sanitary sewer lines in the vicinity of the Properties; and

WHEREAS, Holdings has requested permission from Lake Worth to obtain such provisional sewer service from Boynton Beach's sanitary sewer facilities; and

WHEREAS, the Properties are outside Boynton Beach's utility service area but Boynton Beach does maintain sanitary sewer lines in the vicinity of the Properties which can be extended to allow the Properties to connect to Boynton Beach's sanitary sewer system, in turn allowing the Properties to receive wastewater service; and

WHEREAS, Boynton Beach has agreed to provide sanitary sewer/wastewater service to the Properties; and

WHEREAS, Lake Worth will bill the owner(s) and/or tenant(s) (as applicable in accordance with applicable party maintaining a potable water utility account(s) for such Properties or portion(s) thereof), and their respective successors and assigns (such a party being

[1] The term sanitary sewer system is synonymous with wastewater treatment system.

herein referred to as "End User"), of the Properties for wastewater services (such party herein referred to as "End User"); and

WHEREAS, Lake Worth will become a customer of Boynton Beach for wastewater services, and will be responsible for remitting payment to Boynton Beach for the wastewater services provided to the Properties; and

WHEREAS, Boynton Beach, Lake Worth, and Holdings have agreed to enter into this Agreement which will allow Boynton Beach to temporarily extend sanitary sewer lines to the Properties located in Lake Worth's utility service area, subject to the terms of this Agreement; and

WHEREAS, Such provisional hook-up shall continue only until such time as Lake Worth provides for the installation of its sewer facilities adjacent to the Properties and available for hook-up, at which time Holdings shall disconnect from Boynton Beach's facilities and connect to Lake Worth's facilities within 90 days of notification by Lake Worth of the availability of its facilities; and

WHEREAS, Holdings has agreed to pay the cost of extensions and improvements, as shown in Exhibit "B", attached hereto and incorporated herein, to Boynton Beach's sanitary sewer system to service its respective Properties and, to pay connection and service charges with respect to such Properties as provided by Lake Worth Code or regulation; and

WHEREAS, Holdings shall contract only with Lake Worth for all potable water service.

NOW, THEREFORE, in consideration of the mutual representations, terms, and covenants hereinafter set forth, the parties hereby agree as follows:

1. The foregoing whereas clauses are true and correct and represent material provisions of this Agreement.

2. Lake Worth agrees that Boynton Beach shall provide sanitary sewer lines to the Properties, which Properties are located within Lake Worth.

3. Boynton Beach agrees to maintain those sanitary sewer lines servicing the Properties to the extent located to the south of Hypoluxo Road, with Lake Worth agreeing to maintain those sanitary sewer lines servicing the Properties to the extent located to the north of Hypoluxo Road.

4. Lake Worth shall invoice the End User of the Properties for the wastewater utility service provided to the Properties. Lake Worth shall be responsible for remitting payment for such services to Boynton Beach

5. Boynton Beach agrees to provide treatment of wastewater discharged from the Properties.

6. The cost to Holdings for increasing the capacity of Boynton Beach's and/or Lake Worth's sewer transmission system, so as to accommodate the additional flow from the Properties, shall not exceed $10,000, due and payable at the time of the Palm Beach County Health Department permitting plan submittal for the work described on the attached Exhibit "B" to the City. All other costs associated with Holdings extending the sewer system to the Properties shall be borne by Holdings.

7. Holdings agrees to pay all connection charges imposed by Lake Worth, with respect to the Properties as set forth in Chapter 18 of the City of Lake Worth Code or regulation. Following connection to the Boynton Beach sanitary sewer system, End User(s) shall pay commercial waste water rates charged by Lake Worth for properties inside the City of Lake Worth (sometimes hereinafter referred to as "Waste Water Charge").

8. Holdings agrees to grant a sanitary sewer easement with respect to operation and maintenance of the wastewater improvements described on Exhibit "B" and convey, upon completion of the wastewater improvements described on the attached Exhibit "B" and connection to Boynton Beach's sanitary sewer system, by Bill of Sale (a) to the City of Boynton Beach the force main in the public right of way to the extent such force main is located to the south of Hypoluxo Road and (b) to the City of Lake Worth the force main in the public right of way to the extent such force main is located to the north of Hypoluxo Road. Holdings agrees to operate and maintain in perpetuity all private wastewater improvements (including the private lift station and private force main described on the attached Exhibit "B", but excluding the force main in the public right of way) to the extent located on the Properties and not otherwise dedicated or conveyed to Lake Worth or Boynton Beach.

9. In addition to other provisions contained herein, this Agreement constitutes an Interlocal Agreement between the City of Boynton Beach and the City of Lake Worth for cooperation and service boundaries for wastewater treatment entered into pursuant to The Florida Interlocal Cooperation Act of 1969 and Section 171.203, Florida Statutes.

10. Such provisional hook-up shall continue only until such time as Lake Worth has provided for the installation and makes available its own sanitary sewer lines to the Properties, at which time Holdings shall disconnect from Boynton Beach's sewer facilities and connect to Lake Worth's sewer facilities within ninety (90) days of notification by Lake Worth of the availability of its facilities.

11. Upon disconnection from Boynton Beach's sewer facilities and connection to Lake Worth's sewer facilities, (a) End User shall pay all outstanding charges with respect to the Properties due to Lake Worth in accordance with this Agreement, (b) Lake Worth agrees to remit final payment to Boynton Beach, (c) Boynton Beach agrees to convey by absolute Bill of Sale whatever portion of said facilities Lake Worth desires to have at that time, together with necessary easements for repair and maintenance and (d) End User shall further pay to Lake Worth the regular sanitary sewer service charges imposed with respect to the Properties by Lake Worth, as same may be changed or modified from time to time.

12. Nothing herein is intended to advance or support any annexation effort by either Boynton Beach or Lake Worth with respect to the Properties.

13. Lake Worth shall be responsible for providing water service utility to the Properties in accordance with the ordinances, resolutions and procedures of Lake Worth applicable to water service customers.

14. Boynton Beach shall make no attempt to expand its sewer service area(s) by virtue of said provisional connection, nor make any claim of right adverse to that of Lake Worth by virtue of said provisional hook-up.

15. Except as provided in Section 16 of this Agreement, Holdings shall not sell, lease or give any right or privilege to utilize its sanitary sewer facilities to any other person whose property is outside that described herein nor allow any such connection to such person whose property is outside that described herein, without the written agreement of Lake Worth and Boynton Beach.

16. Notwithstanding anything contained in this Agreement to the contrary, Holdings, Lake Worth and Boynton Beach agree to the following provisions:

(a) An owner (an "Adjacent Owner") of real property located within unincorporated Palm Beach County, Florida and adjacent to the Properties having PCN# 00434504000007350 and/or 00434504000007340 (the "Adjacent Property"), may, in the future, at its sole cost and expense, desire to connect the Adjacent Property to the sanitary sewer line extensions and improvements to-be-constructed and installed by Holdings in accordance with Exhibit "B" for the purpose of obtaining similar provisional sanitary sewer service to the Adjacent Property from Boynton Beach's sanitary sewer facilities (the "Adjacent Property Connection").

(b) The Adjacent Owner shall be permitted to make such Adjacent Property Connection, and such Adjacent Property Connection shall in no event be considered a breach or violation of this Agreement, provided the following conditions precedent are satisfied:

(1) The Adjacent Owner, Lake Worth and Boynton Beach enter into and record against the Adjacent Property an Interlocal Agreement, similar to this Agreement, for cooperation and service boundaries for wastewater treatment consistent with The Florida Interlocal Cooperation Act of 1969 and Section 171.203, Florida Statutes, governing the provision of sanitary sewer service to the Adjacent Property and related costs, expenses and fees due and payable by the Adjacent Owner (the "Adjacent Property Agreement"); and

(2) The Adjacent Owner and Holdings enter into and record against the Properties and the Adjacent Property a sanitary sewer easement memorializing the Adjacent Property Connection, outlining the terms, conditions and restrictions governing such Adjacent Property Connection and providing for the reimbursement by the Adjacent Owner to Holdings of an amount equal to the Adjacent Property's share of the total cost, expenses and fees (including professionals' and attorneys' fees) incurred by Holdings in connection with the construction and installation of the Exhibit "B" extensions and improvements (the "Adjacent Property Easement"); and

(3) Lake Worth opens a new customer account for the purposes of memorializing the additional sale by Boynton Beach to Lake Worth of wastewater utility service with respect to the Adjacent Property.

(c) Nothing contained in this Agreement shall be deemed binding or an encumbrance on the Adjacent Property. Furthermore, nothing contained in this Agreement, including this Section 16, shall obligate Holdings, the Adjacent Owner, Lake Worth and/or Boynton Beach to enter into the Adjacent Property Agreement and/or the Adjacent Property Easement Agreement, as the sole intent of this Section 16 being to outline an exception to the restrictions provided for in Section 15 of this Agreement.

17. This agreement shall take effect upon execution by all parties.

18. In the event a court of competent jurisdiction hereof holds any section, paragraph, sentence, clause, or provision to be invalid, such holding shall not affect the remaining portions of this Agreement, and the same shall remain in full force and effect.

19. This Agreement represents the entire understanding between the parties, concerning the subject, and supersedes all other negotiations, representations, or agreements, either written or oral, relating to this Agreement.

20. All of the covenants, benefits, and agreements herein will constitute covenants running with the land, and will be binding upon any and all individuals and entities, their respective successors in interest, assigns, heirs, and personal representatives, having or hereafter acquiring any right, title, or interest in and to all or a portion of the Properties. Responsibility for the performance of any duty or obligation of Holdings (as the owner of the Properties) and any subsequent owner of the Properties (or portion thereof) will be incidental to ownership of all or any portion of the Properties and will pass to successors or assigns concurrently with the conveyance thereof. Furthermore, liability of Holdings (as the owner of the Properties) and any subsequent owner of the Properties (or portion thereof) will be limited to the Properties (or portion thereof) it owns and that period of time during which it owns such Properties (or portion thereof).

[SIGNATURES ON NEXT PAGE]

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

ATTEST:

CITY OF LAKE WORTH, a Florida Municipal Corporation

By: _____
Pamela Lopez
City Clerk

By: _____ 9/23/14
Mayor

(Seal)

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

_____
Glen Torcivia
City Attorney

CITY OF BOYNTON BEACH, a Florida Municipal Corporation

ATTEST:

_____
Jerry Taylor
Mayor

_____
Janet M. Prainito, CMC
City Clerk

(Seal)

APPROVED AS TO FORM
AND LEGAL SUFFICIENCY

_____
James A. Cherof
City Attorney

HYPOLUXO & I-95 HOLDINGS, LLC

_____
Witness

By: _____
Name: JOSEPH D. LESCOSKE
Title: MANAGING MEMBER

_____
Witness

H:\9356\22938\DSanitarySewerAgreementHypoluxo&I-95HoldingsBCH docx/bch

{00026167 1 306-9001821 }

Exhibit " A"

South 1/2 of the Southwest 1/4 of the Southwest 1/4 of the Southwest 1/4 of Section 4, Township 45 South, Range 43 East, Palm Beach County, Florida, LESS AND EXCEPT rights-of-way for State Road 9 (US I-95), Hypoluxo Road and High Ridge Road.

Also known as:

A parcel of land being a portion of the Southwest 1/4 of the Southwest 1/4 of the Southwest 1/4 of Section 4, Township 45 South, Range 43 East, Palm Beach County, Florida. Said Parcel of land being more particularly described as follows:

Commencing at the Southwest corner of said Section 4, run North 02 degrees 18' 16" West, along the West line of said Section 4, a distance of 348.39 feet; thence South 89 degrees 50' 23" East a distance of 40.03 feet to a point on the Easterly right-of-way line of High Ridge Road (80.00 foot wide right-of-way); said point being the Point Of Beginning of the herein described parcel of land.

Continue thence South 89 degrees 50' 23" East along the North line of the South half of the Southwest 1/4 of the Southwest 1/4 of the Southwest 1/4 of said Section 4, a distance of 641.64 feet; thence South 02 degrees 17' 00" East along the West line of the West 1/2 of the East 1/2 of the Southwest 1/4, of the Southwest 1/4 of Section 4, a distance of 242.87 feet; thence South 57 degrees 39' 18" West a distance of 53.35 feet, thence South 85 degrees 48' 21" West a distance of 287.09 feet to a point on the Northerly right-of-way line of Hypoluxo Road (108 foot wide right-of-way); thence along said Northerly right-of-way line North 90 degrees 00' 00" West a distance of 284.07 feet, thence North 46 degrees 09' 08" West a distance of 34.64 feet, thence North 02 degrees 18' 16" West a distance of 270.21 feet to the Point Of Beginning

Parcel Nos.: 00-43-45-04-00-000-7380 & 00-43-45-04-00-000-7440

Exhibit "B"

Description of Improvements and Extensions

- Private on-site lift station
- Private on-site force main
- Force main in public right of way, crossing Hypoluxo Road
- Connection to City's sewer system at manhole
- Any roadway or surface restoration
- Engineering, permitting, testing, etc. required for the above work

OFFICE OF THE CITY CLERK
7 North Dixie Highway · Lake Worth, Florida 33460 · Phone: 561-586-1662· Fax: 561-586-1750

September 24, 2014

Janet M. Prainito, CMC
City of Boynton Beach
PO Box 310
Boynton Beach, FL 33435-3838

RE. Executed Agreement

Dear Ms. Prainito:

On September 23, 2014, the City Commission approved an interlocal agreement between the City of Boynton Beach, City of Lake Worth, and Hypoluxo & I-95 Holdings, LLC to supply potable water and wastewater service to the Hypoluxo Shoppes properties. Enclosed are two agreements executed by the City of Lake Worth.

Upon execution, please return one original Agreement to the City Clerk's Office for our official records.

Sincerely,

Pamela J. Lopez, MMC
City Clerk

Cc: Monica Shaner

Enclosures

The City of Boynton Beach

City Clerk's Office
100 E BOYNTON BEACH BLVD
BOYNTON BEACH FL 33435
(561) 742-6060
FAX: (561) 742-6090
E-mail: prainitoj@bbfl.us
www.boynton-beach.org

October 10, 2014

MS PAMELA J LOPEZ MMC
CITY CLERK
OFFICE OF THE CITY CLERK
CITY OF LAKE WORTH
7 NORTH DIXIE HIGHWAY
LAKE WORTH FL 33460

Dear Pam:

Enclosed is a copy of Resolution R14-096 and one (1) fully executed original Interlocal Agreement between the City of Boynton Beach, the City of Lake Worth, the Town of Hypoluxo and I-95 Holdings, LLC to supply potable water and wastewater service to the Hypoluxo Shoppes properties. This agreement was approved by the City Commission at their regular meeting on Tuesday, October 7, 2014.

If there are any questions or concerns, please let me know.

Very truly yours,

CITY OF BOYNTON BEACH

COPY

Janet M. Prainito, MMC
City Clerk

Enclosure (1)

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Approve utilizing the State of Florida contract no. 41120000-15-ACS with Fisher Scientific Company, LLC for the purchase of consumable laboratory supplies for the Utilities Department, for a not-to-exceed amount of $40,000. The City of Boynton Beach's (City) purchasing policies allows for the utilization of State of Florida contracts.

EXPLANATION OF REQUEST:
Time Period: October 1, 2017 - September 30, 2018

Boynton Beach Utilities (BBU) utilizes Fisher Scientific Company LLC for the provision of consumable laboratory supplies including, but not limited to, chemicals, standards, proficiency test samples and small instruments such as pH meters to conduct laboratory analysis. The State of Florida Alternate Contract Source for the purchase of “Research Laboratory Supplies” has an effective term of April 1, 2015 through March 31, 2020, and includes equipment necessary for operation of the Utilities’ Laboratory located at the West Water Treatment Plant (West WTP).

The City is a eligible user of the State of Florida contracts and follows the States directions as to how to order from this state contract.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? Approval of the piggyback of the State of Florida contract with Fisher Scientific will give BBU access to the supplies necessary for water quality analysis at discounted prices.

FISCAL IMPACT: Budgeted
Funds have been budgeted in account 401-2819-536-52-21 and 401-2811-536-52-21. Previous fiscal year expenditure:

FY 2016/2017	$37,555
FY 2015/2016	$28,105
FY 2014/2015	$32,826

ALTERNATIVES: City could issue its own bid.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Addendum	State Contract
Attachment	Pricing Discount
Attachment	2017 Fisher Hot List Pricing
Attachment	Letter from Fisher Scientific

FLORIDA DEPARTMENT OF MANAGEMENT SERVICES
state purchasing
We serve those who serve Florida

ALTERNATE CONTRACT SOURCE NO. 41120000-15-ACS
Research Laboratory Supplies
Fisher Scientific Company, L.L.C.
University of Florida
University of Florida Contract No.: ITN15NH-105

This Alternate Contract Source Agreement (ACS) is made and entered into as of the last date signed below by and between the State of Florida, Department of Management Services (Department) and Fisher Scientific Company, L.L.C., (Contractor).

1. **Authority**

1.1 The Department is authorized by subsection 287.042(16), Florida Statutes, "to evaluate contracts let by the Federal Government, another state, or a political subdivision for the provision of commodities and contract services, and, if it is determined in writing to be cost-effective and in the best interest of the state, to enter into a written agreement authorizing an agency to make purchases under such contract."

1.2 The University of Florida (UF) competitively procured Research Laboratory Supplies and awarded contract ITN15NH-105 to Contractor. A Memorandum of Understanding (MOU) was executed on February 13, 2015 between the parties and is attached hereto as Exhibit A, ("Authorized Contract"). The Department has evaluated the Authorized Contract, together with any amendments and exhibits thereto, and hereby acknowledges in writing that use of the Authorized Contract is cost-effective and in the best interest of the State.

1.3 Therefore, the Department enters into this ACS with Contractor.

2. **Additional Definitions**

2.1 Agency – An entity within the executive branch of State government, as described in subsection 287.012(1), Florida Statutes.

2.2 Customer – an Agency that procures Research Laboratory Supplies under the ACS.

2.3 Research Laboratory Supplies - are life science and chemical products, consumable supplies, small laboratory equipment, laboratory instruments and other laboratory supplies, safety equipment and safety supplies.

2.4 State – the State of Florida.

3. **Purpose and Scope of Use**

3.1 The Purpose of this ACS is to acquire Research Laboratory Supplies for use by Agencies.

3.2 Customers may procure Research Laboratory Supplies from this Agreement pursuant to the terms and conditions of the Authorized Contract as modified and supplemented herein.

4. Term and Renewal

4.1 Term: This ACS shall become effective on April 1, 2015 or the date on which the agreement has been signed by both parties, whichever is later and shall have a term that is coterminous with the Authorized Contract, currently effective through February 12, 2020, unless terminated earlier by UF. In addition to the rights contained in the Authorized Contract, the Department reserves the right to terminate this ACS, effective upon 30 day written notice.

4.2 Renewal: Upon agreement of the parties, this ACS maybe renewed for a term that does not exceed the initial or renewal term of the Authorized Contract. Renewal must be in writing and is subject to the same terms and conditions set forth in the Authorized Contract, and any amendments, and this ACS, and any amendments.

5. Authorized Contract Terms and Exhibits Incorporated into the ACS

5.1 The attached Exhibits A-D of Section 10 are hereby incorporated into the ACS as if fully set forth herein, unless modified below and shall remain in full force and effect throughout the term of the ACS, unless modified in writing by the parties.

5.2 The following sections of Exhibit A, Authorized Contract, are superseded by Section 6, Terms Supplemental to the Authorized Contract.

5.2.1 Section I.D., Invoicing and Payment Terms

5.2.2 Section III.B., Hot List

5.2.3 Section IV.E., Quarterly Business Review Meetings

5.2.4 Section IV.F., eBusiness

5.2.5 Section IV.G., Reporting

5.3 Exhibit A, Section IV.A., Account Management is superseded by Section 7, Contract Management.

5.4 Exhibit A, Section III.D., Participation Incentive Fee is not incorporated into this ACS.

6. Terms Supplemental to the Authorized Contract

6.1 Form PUR 1000, General Contract Conditions

This form is incorporated by reference and may be downloaded and viewed at: http://www.dms.myflorida.com/content/download/2933/11777/1000.pdf. If a conflict exists between the Authorized Contract and the General Contract Conditions, the Authorized Contract shall take precedence over the General Contract Conditions unless the conflicting term in the General Contract Conditions is required by Florida law, in which case the General Contract Conditions term will take precedence.

6.2 Purchase Order Limitations

Terms and conditions inconsistent with or contrary to the terms and conditions of the ACS and the Authorized Contract shall not be added to or incorporated into the ACS or the Authorized Contract by any subsequent purchase order or otherwise; any attempts to add or incorporate such terms and conditions shall be null and void.

6.3 Purchase Orders

In order to purchase products and services from the Authorized Contract, Customers shall issue purchase orders referencing this ACS. Customers are responsible for reviewing terms and conditions of this ACS and the Authorized Contract. The Department is not a party to any purchase order issued by a Customer.

6.4 Contractor Pricing

Contractor pricing discounts are listed in Exhibit B: Prime Award PPG schedule with Bands and Exhibit C: Prime Award PPG Schedule to this ACS for use by customers in procuring Research Laboratory Supplies under this Agreement.

6.5 Hot List

Within 30 days of execution of the ACS and annually in January thereafter, the Contractor shall develop a Hot List Pricing sheet, which shall be incorporated by reference and posted on the Department's website. The Hot List contains additional discounts based on the volume of State purchases for specific items.

6.6 Employment Eligibility Verification

Pursuant to State of Florida Executive Order Number 11-116, Contractor is required to use the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of staff assigned by the Contractor to work in the United States and to provide services to Agencies during the ACS term. The Contractor shall include in agreements with Subcontractors a requirement that Subcontractors providing temporary staff to the Contractor utilize the E-Verify system to verify the employment eligibility of all such staff.

6.7 Preferred Pricing

The Contractor agrees to submit to the Department, at least annually, an affidavit from an authorized representative attesting that the Contractor is in compliance with the best pricing offer provision contained in General Contract Conditions (PUR 1000), Paragraph 4(b).

6.8 Scrutinized Company List

In executing this ACS, the Contractor certifies that it is not listed on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to section 215.473, Florida Statutes. Pursuant to section 287.135(5), Florida Statutes, Contractor agrees the Department may immediately terminate this ACS for cause if the Contractor is found to have submitted a false certification, or if Contractor is placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List during the term of the ACS.

6.9 MyFloridaMarketPlace Registration

In order to complete any transaction authorized by this ACS, Contractor must be registered in MyFloridaMarketPlace. All transactions are subject to a transaction fee pursuant to Rule 60A-1.031, Florida Administrative Code.

6.10 Transaction Fee Report

Contractor is required to submit quarterly Transaction Fee Reports in electronic format. Transaction Fee Reports shall be submitted in accordance with the detailed fee reporting instructions and vendor training presentations available online at the Transaction Fee Reporting and Vendor Training subsections under Vendors on the MyFloridaMarketPlace website, located at http://dms.myflorida.com/mfmp.

6.11 Electronic Invoice

The Contractor may supply electronic invoices in lieu of paper-based invoices for those transactions processed through MyFloridaMarketPlace (MFMP). Contractor agrees, upon

Department's request, to establish electronic invoicing within 90 days of written request. Electronic invoices shall be submitted to the Customer through the Ariba Network in one of three mechanisms as listed below.

6.11.1 cXML (commerce eXtensible Markup Language)

This standard establishes the data contents required for invoicing via cXML within the context of an electronic environment. This transaction set can be used for invoicing via the Ariba Network for catalog and non-catalog goods and services. The cXML format is the Ariba preferred method for e-Invoicing.

6.11.2 EDI (Electronic Data Interchange)

This standard establishes the data contents of the Invoice Transaction Set for use within the context of an Electronic Data Interchange (EDI) environment. This transaction set can be used for invoicing via the Ariba Network for catalog and non-catalog goods and services.

6.11.3 PO Flip via Ariba Network

The online process allows suppliers to submit invoices via the Ariba Network for catalog and non-catalog goods and services. Contractors have the ability to create an invoice directly from their Inbox in their Ariba Network account by simply "flipping" the PO into an invoice. This option does not require any special software or technical capabilities.

6.11.4 For the purposes of this section, the Contractor warrants and represents that it is authorized and empowered to and hereby grants the State and the third party provider of MFMP, a State Contractor, the right and license to use, reproduce, transmit, distribute, and publicly display within the system the information outlined above. In addition, the Contractor warrants and represents that it is authorized and empowered to and hereby grants the State and the third party provider the right and license to reproduce and display within the system the Contractor' s trademarks, system marks, logos, trade dress, or other branding designation that identifies the products made available by the Contractor under the Contract.

6.11.5 The Contractor will work with the MFMP management team to obtain specific requirements for the Electronic Invoicing upon contract award.

6.12 Purchasing Card Program

The Contractor must accept universal card format Purchasing Cards (e.g., American Express, MasterCard, and Visa), but this is not the exclusive method of payment (e.g., purchase order). The method of ordering and payment (e.g., purchase order, Purchasing Card) shall be selected by the Eligible User.

The State of Florida has implemented a purchasing card program, using the Visa platform. Contractors may receive payment from state agencies by the purchasing card in the same manner as other Visa purchases. Visa acceptance is mandatory but is not the exclusive method of payment. The State reserves the right to change the platform as necessary. The State will not fill out any Contractor forms or contracts in association with the Contractor accepting a purchasing card payment. Contractors are not allowed to charge a fee for accepting a purchasing card payment. Surcharges or convenience fees are prohibited. Fees shall not be charged for using a purchasing card unless the fees are charged for all methods of payment (cash, check, debit cards, vouchers, etc.), and must be approved by the Eligible User prior to order acceptance.

Page 48 of 67712

On-line billing or payment systems maintained by the Contractor will not store the card holder's account number and expiration date for re-use. Card holders will provide the Contractor with card account information at each transaction.

6.13 Lobbying

Contractor shall comply with sections 11.062, Florida Statutes and 216.347, Florida Statutes, which prohibit the use of state funds to lobby the Legislature, Judiciary, or state agencies.

6.14 Payments by the State

The State of Florida's performance and obligation to pay under this ACS is contingent upon an annual appropriation by the Legislature.

Payment shall be made in accordance with section 215.422, Florida Statutes. Interest penalties for late payment are available subject to the provisions in section 215.422, Florida Statutes. A vendor ombudsman, whose duties include acting as an advocate for vendors who may be experiencing problems in obtaining timely payment(s) from a state agency may be contacted at (850) 413-5516.

6.15 Legal Venue

The exclusive venue of any legal or equitable action, to which the Department is a party that arises out of or relates to this ACS, shall be the appropriate administrative forum or State court in Leon County, Florida. For any legal, administrative or equitable action that arises out of, or relates to, this ACS, Florida law shall apply and Contractor waives any right to a jury trial.

6.16 Notices

Contract notices may be delivered in accordance with section 38, General Contract Conditions, Form PUR 1000, the Authorized Contract or by email to the contact person as identified in section 7.0 below.

6.17 Reporting

In addition to any reports required by the Authorized Contract, the Contractor shall submit a quarterly report in the required format electronically to the Department's Contract Manager within 30 days of the end of the quarter. The Department reserves the right to require the Contractor to provide additional reports within 30 days of written notice. Failure to provide the quarterly report or other reports requested by the Department may result in the Contractor being found in default and may result in termination of the ACS. Initiation and submission of the quarterly report are the responsibility of the Contractor without prompting or notification by the Department. Sales will be reviewed on a quarterly basis. Should no sales be recorded in two consecutive contract quarters, the Department may terminate the ACS.

6.18 Business Review Meetings

The Department reserves the right to schedule business review meetings as frequently as necessary. The Department will provide the format for the Contractor's agenda. Prior to the meeting, the Contractor shall submit the completed agenda to the Department for review and acceptance. The Contractor shall address the agenda items and any of the Department's additional concerns at the meeting. Failure to comply with this section may result in the Contractor being found in default and the ACS terminated.

6.19 Commitment to Diversity in Government Contracting

The State of Florida is committed to supporting its diverse business industry and population through ensuring participation by minority, women, and service-disabled veteran business enterprises in the economic life of the State. The State of Florida Mentor Protégé Program connects minority, women, and service-disabled veteran business enterprises with private corporations for business development mentoring. We strongly encourage firms doing business with the State of Florida to consider this initiative. For more information on the Mentor Protégé Program, please contact the Office of Supplier Diversity at (850) 487-0915 or osdhelp@dms.myflorida.com.

Upon request, the Contractor shall report to the Department, sales with certified and other minority business enterprises. These reports will include the period covered, the name, minority code and Federal Employer Identification Number of each minority vendor utilized during the period, commodities and services provided by the minority business enterprise and the amount paid to each minority vendor on behalf of each agency ordering under the terms of this Contract.

6.20 Public Records

6.20.1 Access to Public Records

The Contractor shall allow public access to all documents, papers, letters, or other material made or received by the Contractor in conjunction with the Contract, unless the records are exempt from Article I, Section 24(a), Florida Constitution or section 119.07(1), F.S. The Department may unilaterally terminate the Contract if the Contractor refuses to allow public access as required in this section.

6.20.2 Redacted Copies of Confidential Information

If Contractor considers any portion of any documents, data, or records submitted to the Department to be confidential, proprietary, trade secret or otherwise not subject to disclosure pursuant to Chapter 119, F.S., the Florida Constitution or other authority, Contractor must – upon request, provide the Department with a separate redacted copy of the information it claims as Confidential and briefly describe in writing the grounds for claiming exemption from the public records law, including the specific statutory citation for such exemption. This redacted copy shall contain the Contract name and number, and shall be clearly titled "Confidential." The redacted copy should only redact those portions of material that the Contractor claims is confidential, proprietary, trade secret or otherwise not subject to disclosure.

6.20.3 Request for Redacted Information

In the event of a public records or other disclosure request pursuant to Chapter 119, F.S., the Florida Constitution or other authority, to which documents that are marked as "Confidential" are responsive, the Department will provide the Contractor-redacted copies to the requestor. If a requestor asserts a right to the Confidential Information, the Department will notify the Contractor such an assertion has been made. It is the Contractor's responsibility to assert that the information in question is exempt from disclosure under Chapter 119, F.S., or other applicable law. If the Department becomes subject to a demand for discovery or disclosure of the Confidential Information of the Contractor under legal process, the Department shall give the Contractor prompt notice of the demand prior to releasing the information labeled "Confidential" (unless otherwise prohibited by applicable law). Contractor shall be responsible for defending its

determination that the redacted portions of its response are confidential, proprietary, trade secret, or otherwise not subject to disclosure.

6.20.4 Indemnification for Redacted Information

Contractor shall protect, defend, and indemnify the Department for any and all claims arising from or relating to Contractor's determination that the redacted portions of its response are confidential, proprietary, trade secret, or otherwise not subject to disclosure. If Contractor fails to submit a redacted copy of information it claims is Confidential, the Department is authorized to produce the entire documents, data, or records submitted to the Department in answer to a public records request or other lawful request for these records.

6.21 Security and Confidentiality

6.21.1 The Contractor shall ensure that confidential or exempt information is protected from disclosure in accordance with Florida law.

6.21.2 The Contractor shall comply with the accessibility standards stated in section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794(d)), including regulations set forth under 36 C.F.R. part 1194, and sections 282.601-606, Florida Statutes.

6.21.3 At the expiration of the ACS, the Contractor shall return all Department or Customer information to the Department or Customer in a usable format to be agreed upon by the Department, Customer, and Contractor.

6.21.4 At the expiration of the ACS and after all federal and state record retention requirements have been met, the Contractor shall destroy and render unrecoverable all remaining Department or Customer information and certify in writing to the Department or Customer that these actions have been taken. Contractor shall adhere to the information destruction standards established by the National Institute of Standards and Technology Special Publication 800-88, "Guidelines for Media Sanitization" (2006). See http://csrc.nist.gov

6.21.5 The first sentence of section 33, General Contract Conditions, PUR 1000 is replaced by the following: The Contractor shall comply fully with all security procedures of the Customer, including those adopted pursuant to section 501.171, Florida Statutes, and Chapter 71A-1, Florida Administrative Code, in performance of the Purchase Order. The warranties of this paragraph shall survive the ACS. If the Customer's security procedures in place as of the effective date of the Purchase Order materially change, then the Customer shall promptly notify the Contractor, and the Contractor and the Customer shall negotiate an amendment to the Purchase Order to address the change in procedures.

6.22 Compliance with Laws

The Contractor shall comply with all laws, Florida Administrative Code rules, ordinances, and licensing requirements applicable to the conduct of its business within the State, including those of federal, state, and local governmental entities having jurisdiction and authority. By way of non-exhaustive example, Chapter 287, Florida Statutes, and Chapter 60A-1, Florida Administrative Code, govern the ACS. By way of further non-exhaustive example, the Contractor shall comply with section 274A of the Immigration and Nationality Act, the Americans with Disabilities Act, and all prohibitions against discrimination on the basis of race, religion, sex, creed, national origin, handicap, marital status, or veteran's status. Violation of such laws may be grounds for termination of the ACS.

The Contractor also shall be governed by and shall not act inconsistently with sections 119.07 and 119.0701, Florida Statutes, regarding public records (all data or information furnished by the Department or State of Florida are state data and records), and section 501.171, Florida Statutes, regarding data security and records maintenance. Any maintenance, support, notice, self-training, certification, audit, review or other provisions contained in Purchase Orders, or additional terms and conditions incorporated into those agreements, that do not comply with Florida law shall not apply to this ACS.

7. Contract Management

7.1 The Department employee responsible for maintaining the contract file for this ACS is:

Christopher McMullen, Contract Manager/Purchasing Analyst
FL Department of Management Services
Division of State Purchasing
4050 Esplanade Way, Ste. 370
Tallahassee, FL 32399-0950
Telephone: (850) 922-9887
E-mail: Chistopher.McMullen@dms.myflorida.com

7.2 The Department may unilaterally appoint a different Contract Manager to the ACS. Said action shall not constitute or require an amendment to the ACS. Any communication to the Department relating to the ACS shall be addressed to the Contract Manager.

7.3 The Contractor shall assign one individual to serve as the designated contact person for this ACS. All questions and Customer service issues concerning this ACS shall be directed to the Contractor's designated contact person. It will be the designated contact person's responsibility to coordinate with necessary Customer personnel as required to answer questions and resolve issues. The Contractor must provide written notice to the Department if a new employee is designated as the contact person for this ACS within 5 business days of the change.

7.4 The Contractor employee responsible for maintaining the contract file for this ACS is:

Mark Mullins, Region Manager Florida
Fisher Scientific, L.L.C.
3970 Johns Creek Court
Suwannee, GA 30024
Telephone: (305) 528-0672
E-mail: Mark.Mullins@thermofisher.com

8. Consequences for Non-performance

8.1 Financial Consequences

Customers must apply financial consequences if the Contractor fails to perform in accordance with the ACS or Customer Purchase Order(s). Customer Purchase Order(s) will include financial consequences for non-performance. Financial consequences for non-performance shall not be considered penalties.

8.2 Contractor Event of Default

Any non-performance by the Contractor, which is not cured within at least 30 days after receipt of written notice thereof by the State, may constitute a default. At the State's exclusive discretion, the period afforded for cure may be extended so long as Contractor institutes satisfactory performance and thereafter diligently and continuously pursues satisfactory performance.

8.3 State Remedies
Upon the occurrence of a default on the part of the Contractor, the State is entitled to remedies as stated in rule 60A-1.006, Florida Administrative Code, without limitation as to the State's pursuit of other remedies at law or equity.

8.4 State Event of Default
The State's failure to perform or delay in performing any of the its responsibilities under this ACS will not constitute grounds for termination of the ACS, or Purchase Order(s), or other means of purchase, by the Contractor except for a failure by the State to timely pay amounts due and owing after a reasonable time to cure and agreement by the State.

9. Subcontractors

The Contractor shall not use subcontractors to provide products or perform services under this ACS without express prior written permission of the Department. Contractor's use of subcontractors without the express prior written consent of the Department shall constitute a breach of this ACS and may result in termination of the ACS.

10. Exhibits to the ACS

10.1 All terms and conditions contained in Exhibits A through D are incorporated as if fully set forth herein and shall remain in full force and effect throughout the term of the ACS, unless modified in writing by the parties. The Exhibits are:

10.1.1 Exhibit A: The Authorized Contract, including exhibits and amendments as modified by Section 5 of this document.

10.1.2 Exhibit B: Prime Award PPG schedule with Bands

10.1.3 Exhibit C: Prime Award PPG schedule

10.1.4 Exhibit D: UF's Invitation to Negotiate No. ITN15NH-105 for Research Laboratory Supplies

11. Entire Agreement of the Parties

11.1 This document and Exhibits A through D constitute the ACS and entire understanding of the parties. Any modification to the ACS must be in writing and signed by the parties.

11.2 In the event of conflict, this document, the exhibits and agency purchase orders shall have priority in the order listed below:

11.2.1 This document and amendments, with latest issued having priority

11.2.2 Exhibit A: Authorized Contract and amendments

11.2.3 Exhibit D: UF's Invitation to Negotiate No. ITN15NH-105 for Research Laboratory Supplies and amendments

11.2.4 PUR 1000, General Contract Conditions

11.2.5 Exhibit C: Prime Award PPG Schedule

11.2.6 Exhibit B: Prime Award PPG Schedule with Bands

11.2.7 Hot List Pricing

11.2.8 Purchase Orders issued pursuant to the ACS

IN WITNESS WHEREOF, the parties have executed this Agreement as of the last date signed by both parties below.

State of Florida Department of Management Services:	Fisher Scientific Company, L.L.C.:
Signature: *Signature on File*	Signature: *Signature on File*
Name: Chad Poppell	Name: Eric Patterson
Title: Secretary	Title: Regional Vice President, Sales
Date:	Date:

Exhibit B
Prime Award PPG schedule with Bands

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Apparatus	Apparatus - All Other	Apparatus - All Other - High Discount	47.0%	Based on January List Price of Applicable Calendar Year	A001	1
Apparatus	Apparatus - All Other	Apparatus - All Other - Medium High Discount	48.0%	Based on January List Price of Applicable Calendar Year	A001	2
Apparatus	Apparatus - All Other	Apparatus - All Other - Medium Discount	37.7%	Based on January List Price of Applicable Calendar Year	A001	3
Apparatus	Apparatus - All Other	Apparatus - All Other - Medium Low Discount	34.0%	Based on January List Price of Applicable Calendar Year	A001	4
Apparatus	Apparatus - All Other	Apparatus - All Other - Low Discount	20.5%	Based on January List Price of Applicable Calendar Year	A001	5
Apparatus	Apparatus - Education	Apparatus - Education - High Discount	29.0%	Based on January List Price of Applicable Calendar Year	A900	1
Apparatus	Apparatus - Education	Apparatus - Education - Medium	29.0%	Based on January List	A900	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		High Discount		Price of Applicable Calendar Year		
Apparatus	Apparatus - Education	Apparatus - Education - Medium Discount	29.0%	Based on January List Price of Applicable Calendar Year	A900	3
Apparatus	Apparatus - Education	Apparatus - Education - Medium Low Discount	29.0%	Based on January List Price of Applicable Calendar Year	A900	4
Apparatus	Apparatus - Education	Apparatus - Education - Low Discount	29.1%	Based on January List Price of Applicable Calendar Year	A900	5
Apparatus	Clamps, Trays, and Supports	Clamps, Trays, and Supports - High Discount	39.6%	Based on January List Price of Applicable Calendar Year	A005	1
Apparatus	Clamps, Trays, and Supports	Clamps, Trays, and Supports - Medium High Discount	59.0%	Based on January List Price of Applicable Calendar Year	A005	2
Apparatus	Clamps, Trays, and Supports	Clamps, Trays, and Supports - Medium Discount	56.8%	Based on January List Price of Applicable Calendar Year	A005	3
Apparatus	Clamps, Trays, and Supports	Clamps, Trays, and Supports - Medium	48.0%	Based on January List Price of	A005	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Low Discount		Applicable Calendar Year		
Apparatus	Clamps, Trays, and Supports	Clamps, Trays, and Supports - Low Discount	36.0%	Based on January List Price of Applicable Calendar Year	A005	5
Apparatus	Cryogenic Products	Cryogenic Products - Medium High Discount	35.4%	Based on January List Price of Applicable Calendar Year	A006	2
Apparatus	Cryogenic Products	Cryogenic Products - Medium Discount	39.9%	Based on January List Price of Applicable Calendar Year	A006	3
Apparatus	Cryogenic Products	Cryogenic Products - Medium Low Discount	31.2%	Based on January List Price of Applicable Calendar Year	A006	4
Apparatus	Cryogenic Products	Cryogenic Products - Low Discount	24.0%	Based on January List Price of Applicable Calendar Year	A006	5
Apparatus	Desiccators	Desiccators - High Discount	35.0%	Based on January List Price of Applicable Calendar Year	A007	1
Apparatus	Desiccators	Desiccators - Medium High Discount	41.2%	Based on January List Price of Applicable	A007	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Apparatus	Desiccators	Desiccators - Medium Discount	48.0%	Based on January List Price of Applicable Calendar Year	A007	3
Apparatus	Desiccators	Desiccators - Medium Low Discount	45.0%	Based on January List Price of Applicable Calendar Year	A007	4
Apparatus	Desiccators	Desiccators - Low Discount	38.5%	Based on January List Price of Applicable Calendar Year	A007	5
Apparatus	Facility Safety - Maintenance & Operations - Apparatus(Safety)	Facility Safety - Maintenance & Operations - Apparatus(Safety) - High Discount	29.2%	Based on January List Price of Applicable Calendar Year	A004	1
Apparatus	Facility Safety - Maintenance & Operations - Apparatus(Safety)	Facility Safety - Maintenance & Operations - Apparatus(Safety) - Medium High Discount	42.3%	Based on January List Price of Applicable Calendar Year	A004	2
Apparatus	Facility Safety - Maintenance & Operations - Apparatus(Safety)	Facility Safety - Maintenance & Operations - Apparatus(Safety) - Medium Discount	41.5%	Based on January List Price of Applicable Calendar Year	A004	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Apparatus	Facility Safety - Maintenance & Operations - Apparatus(Safety)	Facility Safety - Maintenance & Operations - Apparatus(Safety) - Medium Low Discount	38.8%	Based on January List Price of Applicable Calendar Year	A004	4
Apparatus	Facility Safety - Maintenance & Operations - Apparatus(Safety)	Facility Safety - Maintenance & Operations - Apparatus(Safety) - Low Discount	29.5%	Based on January List Price of Applicable Calendar Year	A004	5
Apparatus	Fire Fighting & Emergency Response – Equipment & Medical (Safety)	Fire Fighting & Emergency Response – Equipment & Medical (Safety) - High Discount	27.3%	Based on January List Price of Applicable Calendar Year	A008	1
Apparatus	Fire Fighting & Emergency Response – Equipment & Medical (Safety)	Fire Fighting & Emergency Response – Equipment & Medical (Safety) - Medium High Discount	28.2%	Based on January List Price of Applicable Calendar Year	A008	2
Apparatus	Fire Fighting & Emergency Response – Equipment & Medical (Safety)	Fire Fighting & Emergency Response – Equipment & Medical (Safety) - Medium Discount	39.6%	Based on January List Price of Applicable Calendar Year	A008	3
Apparatus	Fire Fighting & Emergency Response – Equipment & Medical (Safety)	Fire Fighting & Emergency Response – Equipment & Medical (Safety) - Medium Low Discount	28.2%	Based on January List Price of Applicable Calendar Year	A008	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Apparatus	Fire Fighting & Emergency Response – Equipment & Medical (Safety)	Fire Fighting & Emergency Response – Equipment & Medical (Safety) - Low Discount	22.7%	Based on January List Price of Applicable Calendar Year	A008	5
Apparatus	Microbiology Apparatus	Microbiology Apparatus - High Discount	53.0%	Based on January List Price of Applicable Calendar Year	A002	1
Apparatus	Microbiology Apparatus	Microbiology Apparatus - Medium High Discount	36.5%	Based on January List Price of Applicable Calendar Year	A002	2
Apparatus	Microbiology Apparatus	Microbiology Apparatus - Medium Discount	34.5%	Based on January List Price of Applicable Calendar Year	A002	3
Apparatus	Microbiology Apparatus	Microbiology Apparatus - Medium Low Discount	28.1%	Based on January List Price of Applicable Calendar Year	A002	4
Apparatus	Microbiology Apparatus	Microbiology Apparatus - Low Discount	11.0%	Based on January List Price of Applicable Calendar Year	A002	5
Apparatus	PPE – Fall Protection (Safety)	PPE – Fall Protection (Safety) - High Discount	26.1%	Based on January List Price of Applicable Calendar Year	A010	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Apparatus	PPE – Fall Protection (Safety)	PPE – Fall Protection (Safety) - Medium High Discount	46.0%	Based on January List Price of Applicable Calendar Year	A010	2
Apparatus	PPE – Fall Protection (Safety)	PPE – Fall Protection (Safety) - Medium Discount	23.7%	Based on January List Price of Applicable Calendar Year	A010	3
Apparatus	PPE – Fall Protection (Safety)	PPE – Fall Protection (Safety) - Low Discount	21.0%	Based on January List Price of Applicable Calendar Year	A010	5
Apparatus	Racks	Racks - High Discount	32.3%	Based on January List Price of Applicable Calendar Year	A003	1
Apparatus	Racks	Racks - Medium High Discount	46.7%	Based on January List Price of Applicable Calendar Year	A003	2
Apparatus	Racks	Racks - Medium Discount	43.3%	Based on January List Price of Applicable Calendar Year	A003	3
Apparatus	Racks	Racks - Medium Low Discount	41.0%	Based on January List Price of Applicable Calendar Year	A003	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Apparatus	Racks	Racks - Low Discount	25.1%	Based on January List Price of Applicable Calendar Year	A003	5
Biologicals	Antibodies	Antibodies - High Discount	12.0%	Based on January List Price of Applicable Calendar Year	B003	1
Biologicals	Antibodies	Antibodies - Medium High Discount	2.0%	Based on January List Price of Applicable Calendar Year	B003	2
Biologicals	Antibodies	Antibodies - Medium Discount	14.5%	Based on January List Price of Applicable Calendar Year	B003	3
Biologicals	Antibodies	Antibodies - Medium Low Discount	9.0%	Based on January List Price of Applicable Calendar Year	B003	4
Biologicals	Antibodies	Antibodies - Low Discount	17.0%	Based on January List Price of Applicable Calendar Year	B003	5
Biologicals	Biologicals - All Other	Biologicals - All Other - High Discount	23.0%	Based on January List Price of Applicable Calendar Year	B001	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Biologicals	Biologicals - All Other	Biologicals - All Other - Medium High Discount	26.0%	Based on January List Price of Applicable Calendar Year	B001	2
Biologicals	Biologicals - All Other	Biologicals - All Other - Medium Discount	12.0%	Based on January List Price of Applicable Calendar Year	B001	3
Biologicals	Biologicals - All Other	Biologicals - All Other - Medium Low Discount	13.5%	Based on January List Price of Applicable Calendar Year	B001	4
Biologicals	Biologicals - All Other	Biologicals - All Other - Low Discount	10.0%	Based on January List Price of Applicable Calendar Year	B001	5
Biologicals	Biologicals - Education	Biologicals - Education - Medium Discount	30.0%	Based on January List Price of Applicable Calendar Year	B900	3
Biologicals	Biologicals - Education	Biologicals - Education - Medium Low Discount	25.5%	Based on January List Price of Applicable Calendar Year	B900	4
Biologicals	Biologicals - Education	Biologicals - Education - Low Discount	16.0%	Based on January List Price of Applicable Calendar Year	B900	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Biologicals	Blood Culture Systems	Blood Culture Systems - Medium Discount	46.9%	Based on January List Price of Applicable Calendar Year	B005	3
Biologicals	Blood Culture Systems	Blood Culture Systems - Medium Low Discount	51.3%	Based on January List Price of Applicable Calendar Year	B005	4
Biologicals	Blood Culture Systems	Blood Culture Systems - Low Discount	21.2%	Based on January List Price of Applicable Calendar Year	B005	5
Biologicals	Bovine Sera	Bovine Sera - Medium High Discount	21.3%	Based on January List Price of Applicable Calendar Year	B008	2
Biologicals	Bovine Sera	Bovine Sera - Medium Discount	28.0%	Based on January List Price of Applicable Calendar Year	B008	3
Biologicals	Bovine Sera	Bovine Sera - Medium Low Discount	8.0%	Based on January List Price of Applicable Calendar Year	B008	4
Biologicals	Bovine Sera	Bovine Sera - Low Discount	34.2%	Based on January List Price of Applicable Calendar Year	B008	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Biologicals	Cell Culture Media and Reagents	Cell Culture Media and Reagents - High Discount	12.0%	Based on January List Price of Applicable Calendar Year	B004	1
Biologicals	Cell Culture Media and Reagents	Cell Culture Media and Reagents - Medium High Discount	14.9%	Based on January List Price of Applicable Calendar Year	B004	2
Biologicals	Cell Culture Media and Reagents	Cell Culture Media and Reagents - Medium Discount	24.4%	Based on January List Price of Applicable Calendar Year	B004	3
Biologicals	Cell Culture Media and Reagents	Cell Culture Media and Reagents - Medium Low Discount	11.0%	Based on January List Price of Applicable Calendar Year	B004	4
Biologicals	Cell Culture Media and Reagents	Cell Culture Media and Reagents - Low Discount	12.0%	Based on January List Price of Applicable Calendar Year	B004	5
Biologicals	Dehydrated Microbiology Media	Dehydrated Microbiology Media - High Discount	28.0%	Based on January List Price of Applicable Calendar Year	B007	1
Biologicals	Dehydrated Microbiology Media	Dehydrated Microbiology Media - Medium High Discount	26.0%	Based on January List Price of Applicable Calendar Year	B007	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Biologicals	Dehydrated Microbiology Media	Dehydrated Microbiology Media - Medium Discount	20.7%	Based on January List Price of Applicable Calendar Year	B007	3
Biologicals	Dehydrated Microbiology Media	Dehydrated Microbiology Media - Medium Low Discount	22.8%	Based on January List Price of Applicable Calendar Year	B007	4
Biologicals	Dehydrated Microbiology Media	Dehydrated Microbiology Media - Low Discount	13.0%	Based on January List Price of Applicable Calendar Year	B007	5
Biologicals	Enzymes	Enzymes - High Discount	27.8%	Based on January List Price of Applicable Calendar Year	B012	1
Biologicals	Enzymes	Enzymes - Medium High Discount	13.7%	Based on January List Price of Applicable Calendar Year	B012	2
Biologicals	Enzymes	Enzymes - Medium Discount	22.0%	Based on January List Price of Applicable Calendar Year	B012	3
Biologicals	Enzymes	Enzymes - Medium Low Discount	23.0%	Based on January List Price of Applicable Calendar Year	B012	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Biologicals	Enzymes	Enzymes - Low Discount	7.5%	Based on January List Price of Applicable Calendar Year	B012	5
Biologicals	Microbiology Quality Control Supplies	Microbiology Quality Control Supplies - High Discount	23.0%	Based on January List Price of Applicable Calendar Year	B011	1
Biologicals	Microbiology Quality Control Supplies	Microbiology Quality Control Supplies - Medium High Discount	26.0%	Based on January List Price of Applicable Calendar Year	B011	2
Biologicals	Microbiology Quality Control Supplies	Microbiology Quality Control Supplies - Medium Discount	19.0%	Based on January List Price of Applicable Calendar Year	B011	3
Biologicals	Microbiology Quality Control Supplies	Microbiology Quality Control Supplies - Medium Low Discount	18.0%	Based on January List Price of Applicable Calendar Year	B011	4
Biologicals	Microbiology Quality Control Supplies	Microbiology Quality Control Supplies - Low Discount	3.0%	Based on January List Price of Applicable Calendar Year	B011	5
Biologicals	Microbiology Supplies	Microbiology Supplies - High Discount	28.0%	Based on January List Price of Applicable Calendar Year	B009	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Biologicals	Microbiology Supplies	Microbiology Supplies - Medium High Discount	23.0%	Based on January List Price of Applicable Calendar Year	B009	2
Biologicals	Microbiology Supplies	Microbiology Supplies - Medium Discount	28.0%	Based on January List Price of Applicable Calendar Year	B009	3
Biologicals	Microbiology Supplies	Microbiology Supplies - Medium Low Discount	23.0%	Based on January List Price of Applicable Calendar Year	B009	4
Biologicals	Microbiology Supplies	Microbiology Supplies - Low Discount	24.0%	Based on January List Price of Applicable Calendar Year	B009	5
Biologicals	Nucleic Acids and Components	Nucleic Acids and Components - Medium High Discount	8.6%	Based on January List Price of Applicable Calendar Year	B014	2
Biologicals	Nucleic Acids and Components	Nucleic Acids and Components - Medium Discount	16.5%	Based on January List Price of Applicable Calendar Year	B014	3
Biologicals	Nucleic Acids and Components	Nucleic Acids and Components - Medium Low Discount	20.0%	Based on January List Price of Applicable Calendar Year	B014	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Biologicals	Nucleic Acids and Components	Nucleic Acids and Components - Low Discount	12.7%	Based on January List Price of Applicable Calendar Year	B014	5
Biologicals	PCR Supplies	PCR Supplies - High Discount	13.1%	Based on January List Price of Applicable Calendar Year	B006	1
Biologicals	PCR Supplies	PCR Supplies - Medium High Discount	21.9%	Based on January List Price of Applicable Calendar Year	B006	2
Biologicals	PCR Supplies	PCR Supplies - Medium Discount	13.0%	Based on January List Price of Applicable Calendar Year	B006	3
Biologicals	PCR Supplies	PCR Supplies - Medium Low Discount	14.0%	Based on January List Price of Applicable Calendar Year	B006	4
Biologicals	PCR Supplies	PCR Supplies - Low Discount	12.0%	Based on January List Price of Applicable Calendar Year	B006	5
Biologicals	Prepared Microbiology Media [Bottles and Slides]	Prepared Microbiology Media [Bottles and Slides] - High Discount	23.9%	Based on January List Price of Applicable Calendar Year	B013	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Biologicals	Prepared Microbiology Media [Bottles and Slides]	Prepared Microbiology Media [Bottles and Slides] - Medium Discount	25.2%	Based on January List Price of Applicable Calendar Year	B013	3
Biologicals	Prepared Microbiology Media [Bottles and Slides]	Prepared Microbiology Media [Bottles and Slides] - Medium Low Discount	24.0%	Based on January List Price of Applicable Calendar Year	B013	4
Biologicals	Prepared Microbiology Media [Bottles and Slides]	Prepared Microbiology Media [Bottles and Slides] - Low Discount	19.0%	Based on January List Price of Applicable Calendar Year	B013	5
Biologicals	Prepared Microbiology Media [Plates]	Prepared Microbiology Media [Plates] - High Discount	31.7%	Based on January List Price of Applicable Calendar Year	B002	1
Biologicals	Prepared Microbiology Media [Plates]	Prepared Microbiology Media [Plates] - Medium High Discount	48.0%	Based on January List Price of Applicable Calendar Year	B002	2
Biologicals	Prepared Microbiology Media [Plates]	Prepared Microbiology Media [Plates] - Medium Discount	32.4%	Based on January List Price of Applicable Calendar Year	B002	3
Biologicals	Prepared Microbiology Media [Plates]	Prepared Microbiology Media [Plates] - Medium Low Discount	33.7%	Based on January List Price of Applicable Calendar Year	B002	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Biologicals	Prepared Microbiology Media [Plates]	Prepared Microbiology Media [Plates] - Low Discount	21.0%	Based on January List Price of Applicable Calendar Year	B002	5
Biologicals	Prepared Microbiology Media [Tubes]	Prepared Microbiology Media [Tubes] - High Discount	32.8%	Based on January List Price of Applicable Calendar Year	B010	1
Biologicals	Prepared Microbiology Media [Tubes]	Prepared Microbiology Media [Tubes] - Medium High Discount	22.0%	Based on January List Price of Applicable Calendar Year	B010	2
Biologicals	Prepared Microbiology Media [Tubes]	Prepared Microbiology Media [Tubes] - Medium Discount	5.0%	Based on January List Price of Applicable Calendar Year	B010	3
Biologicals	Prepared Microbiology Media [Tubes]	Prepared Microbiology Media [Tubes] - Medium Low Discount	45.0%	Based on January List Price of Applicable Calendar Year	B010	4
Biologicals	Prepared Microbiology Media [Tubes]	Prepared Microbiology Media [Tubes] - Low Discount	17.0%	Based on January List Price of Applicable Calendar Year	B010	5
Biologicals	Proteins	Proteins - Medium High Discount	21.9%	Based on January List Price of Applicable Calendar Year	B015	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Biologicals	Proteins	Proteins - Medium Discount	10.5%	Based on January List Price of Applicable Calendar Year	B015	3
Biologicals	Proteins	Proteins - Medium Low Discount	39.0%	Based on January List Price of Applicable Calendar Year	B015	4
Biologicals	Proteins	Proteins - Low Discount	14.0%	Based on January List Price of Applicable Calendar Year	B015	5
Chemicals	Acids - Inorganic	Acids - Inorganic - High Discount	57.4%	Based on January List Price of Applicable Calendar Year	H004	1
Chemicals	Acids - Inorganic	Acids - Inorganic - Medium High Discount	67.9%	Based on January List Price of Applicable Calendar Year	H004	2
Chemicals	Acids - Inorganic	Acids - Inorganic - Medium Discount	68.6%	Based on January List Price of Applicable Calendar Year	H004	3
Chemicals	Acids - Inorganic	Acids - Inorganic - Medium Low Discount	40.8%	Based on January List Price of Applicable Calendar Year	H004	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Acids - Inorganic	Acids - Inorganic - Low Discount	59.8%	Based on January List Price of Applicable Calendar Year	H004	5
Chemicals	Acids - Organic	Acids - Organic - High Discount	58.2%	Based on January List Price of Applicable Calendar Year	H018	1
Chemicals	Acids - Organic	Acids - Organic - Medium High Discount	71.4%	Based on January List Price of Applicable Calendar Year	H018	2
Chemicals	Acids - Organic	Acids - Organic - Medium Discount	29.5%	Based on January List Price of Applicable Calendar Year	H018	3
Chemicals	Acids - Organic	Acids - Organic - Medium Low Discount	62.6%	Based on January List Price of Applicable Calendar Year	H018	4
Chemicals	Acids - Organic	Acids - Organic - Low Discount	40.3%	Based on January List Price of Applicable Calendar Year	H018	5
Chemicals	Buffers	Buffers - High Discount	43.6%	Based on January List Price of Applicable Calendar Year	H006	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Buffers	Buffers - Medium High Discount	35.8%	Based on January List Price of Applicable Calendar Year	H006	2
Chemicals	Buffers	Buffers - Medium Discount	54.0%	Based on January List Price of Applicable Calendar Year	H006	3
Chemicals	Buffers	Buffers - Medium Low Discount	52.1%	Based on January List Price of Applicable Calendar Year	H006	4
Chemicals	Buffers	Buffers - Low Discount	30.6%	Based on January List Price of Applicable Calendar Year	H006	5
Chemicals	Caustics	Caustics - Medium High Discount	65.8%	Based on January List Price of Applicable Calendar Year	H015	2
Chemicals	Caustics	Caustics - Medium Discount	66.1%	Based on January List Price of Applicable Calendar Year	H015	3
Chemicals	Caustics	Caustics - Medium Low Discount	40.4%	Based on January List Price of Applicable Calendar Year	H015	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Caustics	Caustics - Low Discount	67.2%	Based on January List Price of Applicable Calendar Year	H015	5
Chemicals	Chemicals - All Other	Chemicals - All Other - High Discount	28.5%	Based on January List Price of Applicable Calendar Year	H001	1
Chemicals	Chemicals - All Other	Chemicals - All Other - Medium High Discount	52.1%	Based on January List Price of Applicable Calendar Year	H001	2
Chemicals	Chemicals - All Other	Chemicals - All Other - Medium Discount	68.1%	Based on January List Price of Applicable Calendar Year	H001	3
Chemicals	Chemicals - All Other	Chemicals - All Other - Medium Low Discount	36.3%	Based on January List Price of Applicable Calendar Year	H001	4
Chemicals	Chemicals - All Other	Chemicals - All Other - Low Discount	24.6%	Based on January List Price of Applicable Calendar Year	H001	5
Chemicals	Chemicals - Education	Chemicals - Education - High Discount	27.1%	Based on January List Price of Applicable Calendar Year	H900	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Chemicals - Education	Chemicals - Education - Medium High Discount	13.6%	Based on January List Price of Applicable Calendar Year	H900	2
Chemicals	Chemicals - Education	Chemicals - Education - Medium Discount	29.8%	Based on January List Price of Applicable Calendar Year	H900	3
Chemicals	Chemicals - Education	Chemicals - Education - Medium Low Discount	28.6%	Based on January List Price of Applicable Calendar Year	H900	4
Chemicals	Chemicals - Education	Chemicals - Education - Low Discount	29.8%	Based on January List Price of Applicable Calendar Year	H900	5
Chemicals	Histology Reagents	Histology Reagents - High Discount	57.2%	Based on January List Price of Applicable Calendar Year	H010	1
Chemicals	Histology Reagents	Histology Reagents - Medium High Discount	54.0%	Based on January List Price of Applicable Calendar Year	H010	2
Chemicals	Histology Reagents	Histology Reagents - Medium Discount	55.1%	Based on January List Price of Applicable Calendar Year	H010	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Histology Reagents	Histology Reagents - Medium Low Discount	64.3%	Based on January List Price of Applicable Calendar Year	H010	4
Chemicals	Histology Reagents	Histology Reagents - Low Discount	64.4%	Based on January List Price of Applicable Calendar Year	H010	5
Chemicals	Inorganics - Other	Inorganics - Other - High Discount	26.2%	Based on January List Price of Applicable Calendar Year	H005	1
Chemicals	Inorganics - Other	Inorganics - Other - Medium High Discount	68.4%	Based on January List Price of Applicable Calendar Year	H005	2
Chemicals	Inorganics - Other	Inorganics - Other - Medium Discount	70.7%	Based on January List Price of Applicable Calendar Year	H005	3
Chemicals	Inorganics - Other	Inorganics - Other - Medium Low Discount	66.7%	Based on January List Price of Applicable Calendar Year	H005	4
Chemicals	Inorganics - Other	Inorganics - Other - Low Discount	36.4%	Based on January List Price of Applicable Calendar Year	H005	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Inorganics - Sodium Compounds [Inorganics]	Inorganics - Sodium Compounds [Inorganics] - High Discount	57.6%	Based on January List Price of Applicable Calendar Year	H011	1
Chemicals	Inorganics - Sodium Compounds [Inorganics]	Inorganics - Sodium Compounds [Inorganics] - Medium High Discount	72.5%	Based on January List Price of Applicable Calendar Year	H011	2
Chemicals	Inorganics - Sodium Compounds [Inorganics]	Inorganics - Sodium Compounds [Inorganics] - Medium Discount	68.8%	Based on January List Price of Applicable Calendar Year	H011	3
Chemicals	Inorganics - Sodium Compounds [Inorganics]	Inorganics - Sodium Compounds [Inorganics] - Medium Low Discount	30.0%	Based on January List Price of Applicable Calendar Year	H011	4
Chemicals	Inorganics - Sodium Compounds [Inorganics]	Inorganics - Sodium Compounds [Inorganics] - Low Discount	27.2%	Based on January List Price of Applicable Calendar Year	H011	5
Chemicals	Organics	Organics - High Discount	32.9%	Based on January List Price of Applicable Calendar Year	H002	1
Chemicals	Organics	Organics - Medium High Discount	70.4%	Based on January List Price of Applicable Calendar Year	H002	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Organics	Organics - Medium Discount	62.8%	Based on January List Price of Applicable Calendar Year	H002	3
Chemicals	Organics	Organics - Medium Low Discount	27.7%	Based on January List Price of Applicable Calendar Year	H002	4
Chemicals	Organics	Organics - Low Discount	17.0%	Based on January List Price of Applicable Calendar Year	H002	5
Chemicals	Solutions for Chemical Testing	Solutions for Chemical Testing - High Discount	53.1%	Based on January List Price of Applicable Calendar Year	H012	1
Chemicals	Solutions for Chemical Testing	Solutions for Chemical Testing - Medium High Discount	66.1%	Based on January List Price of Applicable Calendar Year	H012	2
Chemicals	Solutions for Chemical Testing	Solutions for Chemical Testing - Medium Discount	41.8%	Based on January List Price of Applicable Calendar Year	H012	3
Chemicals	Solutions for Chemical Testing	Solutions for Chemical Testing - Medium Low Discount	62.1%	Based on January List Price of Applicable Calendar Year	H012	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Solutions for Chemical Testing	Solutions for Chemical Testing - Low Discount	58.5%	Based on January List Price of Applicable Calendar Year	H012	5
Chemicals	Solvents - Acetone	Solvents - Acetone - Medium High Discount	46.2%	Based on January List Price of Applicable Calendar Year	H016	2
Chemicals	Solvents - Acetone	Solvents - Acetone - Medium Discount	81.5%	Based on January List Price of Applicable Calendar Year	H016	3
Chemicals	Solvents - Acetone	Solvents - Acetone - Medium Low Discount	72.1%	Based on January List Price of Applicable Calendar Year	H016	4
Chemicals	Solvents - Acetone	Solvents - Acetone - Low Discount	69.7%	Based on January List Price of Applicable Calendar Year	H016	5
Chemicals	Solvents - Acetonitrile	Solvents - Acetonitrile - Medium High Discount	62.4%	Based on January List Price of Applicable Calendar Year	H007	2
Chemicals	Solvents - Acetonitrile	Solvents - Acetonitrile - Medium Discount	28.0%	Based on January List Price of Applicable Calendar Year	H007	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Solvents - Acetonitrile	Solvents - Acetonitrile - Medium Low Discount	68.9%	Based on January List Price of Applicable Calendar Year	H007	4
Chemicals	Solvents - Acetonitrile	Solvents - Acetonitrile - Low Discount	70.3%	Based on January List Price of Applicable Calendar Year	H007	5
Chemicals	Solvents - Ethanol	Solvents - Ethanol - High Discount	47.0%	Based on January List Price of Applicable Calendar Year	H009	1
Chemicals	Solvents - Ethanol	Solvents - Ethanol - Medium High Discount	48.3%	Based on January List Price of Applicable Calendar Year	H009	2
Chemicals	Solvents - Ethanol	Solvents - Ethanol - Medium Discount	73.0%	Based on January List Price of Applicable Calendar Year	H009	3
Chemicals	Solvents - Ethanol	Solvents - Ethanol - Medium Low Discount	72.2%	Based on January List Price of Applicable Calendar Year	H009	4
Chemicals	Solvents - Hexanes	Solvents - Hexanes - Medium High Discount	73.2%	Based on January List Price of Applicable Calendar Year	H020	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Solvents - Hexanes	Solvents - Hexanes - Medium Discount	77.7%	Based on January List Price of Applicable Calendar Year	H020	3
Chemicals	Solvents - Hexanes	Solvents - Hexanes - Medium Low Discount	78.8%	Based on January List Price of Applicable Calendar Year	H020	4
Chemicals	Solvents - Hexanes	Solvents - Hexanes - Low Discount	26.7%	Based on January List Price of Applicable Calendar Year	H020	5
Chemicals	Solvents - Isopropanol [IPA]	Solvents - Isopropanol [IPA] - Medium High Discount	66.8%	Based on January List Price of Applicable Calendar Year	H014	2
Chemicals	Solvents - Isopropanol [IPA]	Solvents - Isopropanol [IPA] - Medium Discount	77.3%	Based on January List Price of Applicable Calendar Year	H014	3
Chemicals	Solvents - Isopropanol [IPA]	Solvents - Isopropanol [IPA] - Medium Low Discount	33.1%	Based on January List Price of Applicable Calendar Year	H014	4
Chemicals	Solvents - Isopropanol [IPA]	Solvents - Isopropanol [IPA] - Low Discount	63.5%	Based on January List Price of Applicable Calendar Year	H014	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Solvents - Methanol	Solvents - Methanol - Medium High Discount	67.6%	Based on January List Price of Applicable Calendar Year	H008	2
Chemicals	Solvents - Methanol	Solvents - Methanol - Medium Discount	76.0%	Based on January List Price of Applicable Calendar Year	H008	3
Chemicals	Solvents - Methanol	Solvents - Methanol - Medium Low Discount	38.4%	Based on January List Price of Applicable Calendar Year	H008	4
Chemicals	Solvents - Methanol	Solvents - Methanol - Low Discount	68.4%	Based on January List Price of Applicable Calendar Year	H008	5
Chemicals	Solvents - Methylene Chloride	Solvents - Methylene Chloride - Medium High Discount	29.1%	Based on January List Price of Applicable Calendar Year	H019	2
Chemicals	Solvents - Methylene Chloride	Solvents - Methylene Chloride - Medium Discount	74.1%	Based on January List Price of Applicable Calendar Year	H019	3
Chemicals	Solvents - Methylene Chloride	Solvents - Methylene Chloride - Medium Low Discount	76.7%	Based on January List Price of Applicable Calendar Year	H019	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Solvents - Methylene Chloride	Solvents - Methylene Chloride - Low Discount	68.4%	Based on January List Price of Applicable Calendar Year	H019	5
Chemicals	Solvents - Other	Solvents - Other - High Discount	33.4%	Based on January List Price of Applicable Calendar Year	H003	1
Chemicals	Solvents - Other	Solvents - Other - Medium High Discount	76.5%	Based on January List Price of Applicable Calendar Year	H003	2
Chemicals	Solvents - Other	Solvents - Other - Medium Discount	69.2%	Based on January List Price of Applicable Calendar Year	H003	3
Chemicals	Solvents - Other	Solvents - Other - Medium Low Discount	74.3%	Based on January List Price of Applicable Calendar Year	H003	4
Chemicals	Solvents - Other	Solvents - Other - Low Discount	62.1%	Based on January List Price of Applicable Calendar Year	H003	5
Chemicals	Solvents - Xylenes	Solvents - Xylenes - Medium Discount	70.1%	Based on January List Price of Applicable Calendar Year	H021	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Solvents - Xylenes	Solvents - Xylenes - Medium Low Discount	52.9%	Based on January List Price of Applicable Calendar Year	H021	4
Chemicals	Solvents - Xylenes	Solvents - Xylenes - Low Discount	74.7%	Based on January List Price of Applicable Calendar Year	H021	5
Chemicals	Standards	Standards - High Discount	47.9%	Based on January List Price of Applicable Calendar Year	H013	1
Chemicals	Standards	Standards - Medium High Discount	44.3%	Based on January List Price of Applicable Calendar Year	H013	2
Chemicals	Standards	Standards - Medium Discount	65.0%	Based on January List Price of Applicable Calendar Year	H013	3
Chemicals	Standards	Standards - Medium Low Discount	48.8%	Based on January List Price of Applicable Calendar Year	H013	4
Chemicals	Standards	Standards - Low Discount	23.0%	Based on January List Price of Applicable Calendar Year	H013	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Chemicals	Water	Water - High Discount	62.8%	Based on January List Price of Applicable Calendar Year	H017	1
Chemicals	Water	Water - Medium High Discount	25.2%	Based on January List Price of Applicable Calendar Year	H017	2
Chemicals	Water	Water - Medium Discount	69.3%	Based on January List Price of Applicable Calendar Year	H017	3
Chemicals	Water	Water - Medium Low Discount	70.3%	Based on January List Price of Applicable Calendar Year	H017	4
Chemicals	Water	Water - Low Discount	58.7%	Based on January List Price of Applicable Calendar Year	H017	5
Consumables	Autoradiography Supplies	Autoradiography Supplies - Medium Discount	19.0%	Based on January List Price of Applicable Calendar Year	C070	3
Consumables	Autoradiography Supplies	Autoradiography Supplies - Medium Low Discount	46.2%	Based on January List Price of Applicable Calendar Year	C070	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Autoradiography Supplies	Autoradiography Supplies - Low Discount	21.8%	Based on January List Price of Applicable Calendar Year	C070	5
Consumables	Bags - Autoclaving Bags	Bags - Autoclaving Bags - Medium High Discount	56.2%	Based on January List Price of Applicable Calendar Year	C051	2
Consumables	Bags - Autoclaving Bags	Bags - Autoclaving Bags - Medium Discount	67.2%	Based on January List Price of Applicable Calendar Year	C051	3
Consumables	Bags - Autoclaving Bags	Bags - Autoclaving Bags - Medium Low Discount	62.5%	Based on January List Price of Applicable Calendar Year	C051	4
Consumables	Bags - Autoclaving Bags	Bags - Autoclaving Bags - Low Discount	56.4%	Based on January List Price of Applicable Calendar Year	C051	5
Consumables	Bags - Other	Bags - Other - Medium High Discount	29.3%	Based on January List Price of Applicable Calendar Year	C074	2
Consumables	Bags - Other	Bags - Other - Medium Discount	47.6%	Based on January List Price of Applicable Calendar Year	C074	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Bags - Other	Bags - Other - Medium Low Discount	54.4%	Based on January List Price of Applicable Calendar Year	C074	4
Consumables	Bags - Other	Bags - Other - Low Discount	40.6%	Based on January List Price of Applicable Calendar Year	C074	5
Consumables	Bags - Sample Bags	Bags - Sample Bags - High Discount	45.2%	Based on January List Price of Applicable Calendar Year	C041	1
Consumables	Bags - Sample Bags	Bags - Sample Bags - Medium High Discount	39.2%	Based on January List Price of Applicable Calendar Year	C041	2
Consumables	Bags - Sample Bags	Bags - Sample Bags - Medium Discount	51.3%	Based on January List Price of Applicable Calendar Year	C041	3
Consumables	Bags - Sample Bags	Bags - Sample Bags - Medium Low Discount	43.7%	Based on January List Price of Applicable Calendar Year	C041	4
Consumables	Bags - Sample Bags	Bags - Sample Bags - Low Discount	41.7%	Based on January List Price of Applicable Calendar Year	C041	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Beakers - Glass	Beakers - Glass - Medium Low Discount	42.6%	Based on January List Price of Applicable Calendar Year	C079	4
Consumables	Beakers - Glass	Beakers - Glass - Low Discount	43.6%	Based on January List Price of Applicable Calendar Year	C079	5
Consumables	Beakers - Plastic and Other	Beakers - Plastic and Other - Medium High Discount	49.5%	Based on January List Price of Applicable Calendar Year	C076	2
Consumables	Beakers - Plastic and Other	Beakers - Plastic and Other - Medium Discount	58.4%	Based on January List Price of Applicable Calendar Year	C076	3
Consumables	Beakers - Plastic and Other	Beakers - Plastic and Other - Medium Low Discount	55.6%	Based on January List Price of Applicable Calendar Year	C076	4
Consumables	Beakers - Plastic and Other	Beakers - Plastic and Other - Low Discount	42.6%	Based on January List Price of Applicable Calendar Year	C076	5
Consumables	Bench Protectors	Bench Protectors - Medium Discount	47.6%	Based on January List Price of Applicable Calendar Year	C072	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Bench Protectors	Bench Protectors - Medium Low Discount	44.0%	Based on January List Price of Applicable Calendar Year	C072	4
Consumables	Bench Protectors	Bench Protectors - Low Discount	40.8%	Based on January List Price of Applicable Calendar Year	C072	5
Consumables	Bottles - Glass Bottles [General Purpose]	Bottles - Glass Bottles [General Purpose] - Medium High Discount	59.6%	Based on January List Price of Applicable Calendar Year	C046	2
Consumables	Bottles - Glass Bottles [General Purpose]	Bottles - Glass Bottles [General Purpose] - Medium Discount	63.7%	Based on January List Price of Applicable Calendar Year	C046	3
Consumables	Bottles - Glass Bottles [General Purpose]	Bottles - Glass Bottles [General Purpose] - Medium Low Discount	62.7%	Based on January List Price of Applicable Calendar Year	C046	4
Consumables	Bottles - Glass Bottles [General Purpose]	Bottles - Glass Bottles [General Purpose] - Low Discount	46.6%	Based on January List Price of Applicable Calendar Year	C046	5
Consumables	Bottles - Media Bottles	Bottles - Media Bottles - High Discount	42.8%	Based on January List Price of Applicable Calendar Year	C033	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Bottles - Media Bottles	Bottles - Media Bottles - Medium High Discount	49.5%	Based on January List Price of Applicable Calendar Year	C033	2
Consumables	Bottles - Media Bottles	Bottles - Media Bottles - Medium Discount	46.0%	Based on January List Price of Applicable Calendar Year	C033	3
Consumables	Bottles - Media Bottles	Bottles - Media Bottles - Medium Low Discount	37.2%	Based on January List Price of Applicable Calendar Year	C033	4
Consumables	Bottles - Media Bottles	Bottles - Media Bottles - Low Discount	42.9%	Based on January List Price of Applicable Calendar Year	C033	5
Consumables	Bottles - Other	Bottles - Other - High Discount	44.2%	Based on January List Price of Applicable Calendar Year	C013	1
Consumables	Bottles - Other	Bottles - Other - Medium High Discount	62.0%	Based on January List Price of Applicable Calendar Year	C013	2
Consumables	Bottles - Other	Bottles - Other - Medium Discount	38.9%	Based on January List Price of Applicable Calendar Year	C013	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Bottles - Other	Bottles - Other - Medium Low Discount	41.5%	Based on January List Price of Applicable Calendar Year	C013	4
Consumables	Bottles - Other	Bottles - Other - Low Discount	37.4%	Based on January List Price of Applicable Calendar Year	C013	5
Consumables	Bottles - Plastic Bottles [General Purpose]	Bottles - Plastic Bottles [General Purpose] - High Discount	41.6%	Based on January List Price of Applicable Calendar Year	C014	1
Consumables	Bottles - Plastic Bottles [General Purpose]	Bottles - Plastic Bottles [General Purpose] - Medium High Discount	50.3%	Based on January List Price of Applicable Calendar Year	C014	2
Consumables	Bottles - Plastic Bottles [General Purpose]	Bottles - Plastic Bottles [General Purpose] - Medium Discount	51.2%	Based on January List Price of Applicable Calendar Year	C014	3
Consumables	Bottles - Plastic Bottles [General Purpose]	Bottles - Plastic Bottles [General Purpose] - Medium Low Discount	43.5%	Based on January List Price of Applicable Calendar Year	C014	4
Consumables	Bottles - Plastic Bottles [General Purpose]	Bottles - Plastic Bottles [General Purpose] - Low Discount	38.8%	Based on January List Price of Applicable Calendar Year	C014	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Bottles - Wash Bottles	Bottles - Wash Bottles - Medium High Discount	52.7%	Based on January List Price of Applicable Calendar Year	C091	2
Consumables	Bottles - Wash Bottles	Bottles - Wash Bottles - Medium Discount	58.6%	Based on January List Price of Applicable Calendar Year	C091	3
Consumables	Bottles - Wash Bottles	Bottles - Wash Bottles - Medium Low Discount	51.7%	Based on January List Price of Applicable Calendar Year	C091	4
Consumables	Bottles - Wash Bottles	Bottles - Wash Bottles - Low Discount	53.8%	Based on January List Price of Applicable Calendar Year	C091	5
Consumables	Burets	Burets - High Discount	45.7%	Based on January List Price of Applicable Calendar Year	C087	1
Consumables	Burets	Burets - Medium High Discount	48.3%	Based on January List Price of Applicable Calendar Year	C087	2
Consumables	Burets	Burets - Medium Discount	67.2%	Based on January List Price of Applicable Calendar Year	C087	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Burets	Burets - Medium Low Discount	46.9%	Based on January List Price of Applicable Calendar Year	C087	4
Consumables	Burets	Burets - Low Discount	43.1%	Based on January List Price of Applicable Calendar Year	C087	5
Consumables	Carboys and Jerricans	Carboys and Jerricans - Medium High Discount	44.2%	Based on January List Price of Applicable Calendar Year	C061	2
Consumables	Carboys and Jerricans	Carboys and Jerricans - Medium Discount	61.2%	Based on January List Price of Applicable Calendar Year	C061	3
Consumables	Carboys and Jerricans	Carboys and Jerricans - Medium Low Discount	43.4%	Based on January List Price of Applicable Calendar Year	C061	4
Consumables	Carboys and Jerricans	Carboys and Jerricans - Low Discount	32.9%	Based on January List Price of Applicable Calendar Year	C061	5
Consumables	Cell Culture Dishes	Cell Culture Dishes - Medium Low Discount	43.6%	Based on January List Price of Applicable Calendar Year	C038	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Cell Culture Flasks	Cell Culture Flasks - High Discount	36.8%	Based on January List Price of Applicable Calendar Year	C009	1
Consumables	Cell Culture Flasks	Cell Culture Flasks - Medium High Discount	44.3%	Based on January List Price of Applicable Calendar Year	C009	2
Consumables	Cell Culture Flasks	Cell Culture Flasks - Medium Discount	41.0%	Based on January List Price of Applicable Calendar Year	C009	3
Consumables	Cell Culture Flasks	Cell Culture Flasks - Medium Low Discount	23.2%	Based on January List Price of Applicable Calendar Year	C009	4
Consumables	Cell Culture Flasks	Cell Culture Flasks - Low Discount	37.0%	Based on January List Price of Applicable Calendar Year	C009	5
Consumables	Cell Culture Microplates	Cell Culture Microplates - High Discount	32.7%	Based on January List Price of Applicable Calendar Year	C024	1
Consumables	Cell Culture Microplates	Cell Culture Microplates - Medium High Discount	43.0%	Based on January List Price of Applicable Calendar Year	C024	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Cell Culture Microplates	Cell Culture Microplates - Medium Discount	22.4%	Based on January List Price of Applicable Calendar Year	C024	3
Consumables	Cell Culture Microplates	Cell Culture Microplates - Medium Low Discount	44.1%	Based on January List Price of Applicable Calendar Year	C024	4
Consumables	Cell Culture Microplates	Cell Culture Microplates - Low Discount	31.2%	Based on January List Price of Applicable Calendar Year	C024	5
Consumables	Cell Culture Tubes	Cell Culture Tubes - Medium High Discount	61.4%	Based on January List Price of Applicable Calendar Year	C037	2
Consumables	Cell Culture Tubes	Cell Culture Tubes - Medium Discount	49.1%	Based on January List Price of Applicable Calendar Year	C037	3
Consumables	Cell Culture Tubes	Cell Culture Tubes - Medium Low Discount	63.6%	Based on January List Price of Applicable Calendar Year	C037	4
Consumables	Cell Culture Tubes	Cell Culture Tubes - Low Discount	44.2%	Based on January List Price of Applicable Calendar Year	C037	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Cellware [Specialty]	Cellware [Specialty] - High Discount	30.2%	Based on January List Price of Applicable Calendar Year	C040	1
Consumables	Cellware [Specialty]	Cellware [Specialty] - Medium High Discount	39.1%	Based on January List Price of Applicable Calendar Year	C040	2
Consumables	Cellware [Specialty]	Cellware [Specialty] - Medium Discount	25.9%	Based on January List Price of Applicable Calendar Year	C040	3
Consumables	Cellware [Specialty]	Cellware [Specialty] - Medium Low Discount	23.3%	Based on January List Price of Applicable Calendar Year	C040	4
Consumables	Cellware [Specialty]	Cellware [Specialty] - Low Discount	18.9%	Based on January List Price of Applicable Calendar Year	C040	5
Consumables	Chromatography Columns	Chromatography Columns - High Discount	26.8%	Based on January List Price of Applicable Calendar Year	C032	1
Consumables	Chromatography Columns	Chromatography Columns - Medium High Discount	23.0%	Based on January List Price of Applicable Calendar Year	C032	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Chromatography Columns	Chromatography Columns - Medium Discount	15.4%	Based on January List Price of Applicable Calendar Year	C032	3
Consumables	Chromatography Columns	Chromatography Columns - Medium Low Discount	22.5%	Based on January List Price of Applicable Calendar Year	C032	4
Consumables	Chromatography Columns	Chromatography Columns - Low Discount	16.3%	Based on January List Price of Applicable Calendar Year	C032	5
Consumables	Chromatography Columns and Supplies	Chromatography Columns and Supplies - High Discount	31.4%	Based on January List Price of Applicable Calendar Year	C039	1
Consumables	Chromatography Columns and Supplies	Chromatography Columns and Supplies - Medium High Discount	32.6%	Based on January List Price of Applicable Calendar Year	C039	2
Consumables	Chromatography Columns and Supplies	Chromatography Columns and Supplies - Medium Discount	17.6%	Based on January List Price of Applicable Calendar Year	C039	3
Consumables	Chromatography Columns and Supplies	Chromatography Columns and Supplies - Medium Low Discount	20.8%	Based on January List Price of Applicable Calendar Year	C039	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Chromatography Columns and Supplies	Chromatography Columns and Supplies - Low Discount	17.5%	Based on January List Price of Applicable Calendar Year	C039	5
Consumables	Cleaning Products	Cleaning Products - High Discount	44.4%	Based on January List Price of Applicable Calendar Year	C026	1
Consumables	Cleaning Products	Cleaning Products - Medium High Discount	48.1%	Based on January List Price of Applicable Calendar Year	C026	2
Consumables	Cleaning Products	Cleaning Products - Medium Discount	34.3%	Based on January List Price of Applicable Calendar Year	C026	3
Consumables	Cleaning Products	Cleaning Products - Medium Low Discount	29.6%	Based on January List Price of Applicable Calendar Year	C026	4
Consumables	Cleaning Products	Cleaning Products - Low Discount	30.3%	Based on January List Price of Applicable Calendar Year	C026	5
Consumables	Consumables - All Other	Consumables - All Other - High Discount	49.6%	Based on January List Price of Applicable Calendar Year	C001	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Consumables - All Other	Consumables - All Other - Medium High Discount	54.4%	Based on January List Price of Applicable Calendar Year	C001	2
Consumables	Consumables - All Other	Consumables - All Other - Medium Discount	30.0%	Based on January List Price of Applicable Calendar Year	C001	3
Consumables	Consumables - All Other	Consumables - All Other - Medium Low Discount	38.3%	Based on January List Price of Applicable Calendar Year	C001	4
Consumables	Consumables - All Other	Consumables - All Other - Low Discount	25.0%	Based on January List Price of Applicable Calendar Year	C001	5
Consumables	Consumables - Education	Consumables - Education - High Discount	32.9%	Based on January List Price of Applicable Calendar Year	C900	1
Consumables	Consumables - Education	Consumables - Education - Medium High Discount	29.1%	Based on January List Price of Applicable Calendar Year	C900	2
Consumables	Consumables - Education	Consumables - Education - Medium Discount	30.3%	Based on January List Price of Applicable Calendar Year	C900	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Consumables - Education	Consumables - Education - Medium Low Discount	25.9%	Based on January List Price of Applicable Calendar Year	C900	4
Consumables	Consumables - Education	Consumables - Education - Low Discount	27.7%	Based on January List Price of Applicable Calendar Year	C900	5
Consumables	Controlled Environments – Apparel (Safety)	Controlled Environments – Apparel (Safety) - Medium High Discount	39.1%	Based on January List Price of Applicable Calendar Year	C016	2
Consumables	Controlled Environments – Apparel (Safety)	Controlled Environments – Apparel (Safety) - Medium Discount	78.0%	Based on January List Price of Applicable Calendar Year	C016	3
Consumables	Controlled Environments – Apparel (Safety)	Controlled Environments – Apparel (Safety) - Medium Low Discount	33.9%	Based on January List Price of Applicable Calendar Year	C016	4
Consumables	Controlled Environments – Apparel (Safety)	Controlled Environments – Apparel (Safety) - Low Discount	58.9%	Based on January List Price of Applicable Calendar Year	C016	5
Consumables	Controlled Environments – Gloves (Safety)	Controlled Environments – Gloves (Safety) - High Discount	37.0%	Based on January List Price of Applicable Calendar Year	C021	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Controlled Environments – Gloves (Safety)	Controlled Environments – Gloves (Safety) - Medium Discount	35.7%	Based on January List Price of Applicable Calendar Year	C021	3
Consumables	Controlled Environments – Gloves (Safety)	Controlled Environments – Gloves (Safety) - Medium Low Discount	37.3%	Based on January List Price of Applicable Calendar Year	C021	4
Consumables	Controlled Environments – Gloves (Safety)	Controlled Environments – Gloves (Safety) - Low Discount	40.4%	Based on January List Price of Applicable Calendar Year	C021	5
Consumables	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape (Safety)	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape (Safety) - High Discount	28.0%	Based on January List Price of Applicable Calendar Year	C049	1
Consumables	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape (Safety)	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape (Safety) - Medium High Discount	39.8%	Based on January List Price of Applicable Calendar Year	C049	2
Consumables	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape (Safety)	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape (Safety) - Medium Discount	26.9%	Based on January List Price of Applicable Calendar Year	C049	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape (Safety)	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape (Safety) - Medium Low Discount	29.1%	Based on January List Price of Applicable Calendar Year	C049	4
Consumables	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape (Safety)	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape (Safety) - Low Discount	36.2%	Based on January List Price of Applicable Calendar Year	C049	5
Consumables	Controlled Environments – Wipers & Swabs (Safety)	Controlled Environments – Wipers & Swabs (Safety) - Medium Discount	35.3%	Based on January List Price of Applicable Calendar Year	C018	3
Consumables	Controlled Environments – Wipers & Swabs (Safety)	Controlled Environments – Wipers & Swabs (Safety) - Medium Low Discount	38.0%	Based on January List Price of Applicable Calendar Year	C018	4
Consumables	Controlled Environments – Wipers & Swabs (Safety)	Controlled Environments – Wipers & Swabs (Safety) - Low Discount	31.7%	Based on January List Price of Applicable Calendar Year	C018	5
Consumables	Coverslips	Coverslips - Medium High Discount	65.3%	Based on January List Price of Applicable Calendar Year	C065	2
Consumables	Coverslips	Coverslips - Medium Discount	50.1%	Based on January List Price of	C065	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Applicable Calendar Year		
Consumables	Coverslips	Coverslips - Medium Low Discount	60.5%	Based on January List Price of Applicable Calendar Year	C065	4
Consumables	Coverslips	Coverslips - Low Discount	43.9%	Based on January List Price of Applicable Calendar Year	C065	5
Consumables	Crucibles	Crucibles - Medium Low Discount	37.5%	Based on January List Price of Applicable Calendar Year	C090	4
Consumables	Crucibles	Crucibles - Low Discount	39.5%	Based on January List Price of Applicable Calendar Year	C090	5
Consumables	Cuvets and Cells	Cuvets and Cells - Medium High Discount	48.0%	Based on January List Price of Applicable Calendar Year	C075	2
Consumables	Cuvets and Cells	Cuvets and Cells - Medium Discount	39.0%	Based on January List Price of Applicable Calendar Year	C075	3
Consumables	Cuvets and Cells	Cuvets and Cells - Medium Low Discount	30.5%	Based on January List Price of Applicable	C075	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Cuvets and Cells	Cuvets and Cells - Low Discount	9.7%	Based on January List Price of Applicable Calendar Year	C075	5
Consumables	Cylinders [Laboratory]	Cylinders [Laboratory] - High Discount	40.2%	Based on January List Price of Applicable Calendar Year	C068	1
Consumables	Cylinders [Laboratory]	Cylinders [Laboratory] - Medium High Discount	38.8%	Based on January List Price of Applicable Calendar Year	C068	2
Consumables	Cylinders [Laboratory]	Cylinders [Laboratory] - Medium Discount	42.4%	Based on January List Price of Applicable Calendar Year	C068	3
Consumables	Cylinders [Laboratory]	Cylinders [Laboratory] - Medium Low Discount	45.7%	Based on January List Price of Applicable Calendar Year	C068	4
Consumables	Cylinders [Laboratory]	Cylinders [Laboratory] - Low Discount	43.4%	Based on January List Price of Applicable Calendar Year	C068	5
Consumables	Dishes - Other	Dishes - Other - High Discount	64.1%	Based on January List Price of Applicable	C058	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Dishes - Other	Dishes - Other - Medium High Discount	68.1%	Based on January List Price of Applicable Calendar Year	C058	2
Consumables	Dishes - Other	Dishes - Other - Medium Discount	60.8%	Based on January List Price of Applicable Calendar Year	C058	3
Consumables	Dishes - Other	Dishes - Other - Medium Low Discount	44.7%	Based on January List Price of Applicable Calendar Year	C058	4
Consumables	Dishes - Other	Dishes - Other - Low Discount	31.2%	Based on January List Price of Applicable Calendar Year	C058	5
Consumables	Dishes - Petri Dishes	Dishes - Petri Dishes - High Discount	37.4%	Based on January List Price of Applicable Calendar Year	C029	1
Consumables	Dishes - Petri Dishes	Dishes - Petri Dishes - Medium High Discount	51.2%	Based on January List Price of Applicable Calendar Year	C029	2
Consumables	Dishes - Petri Dishes	Dishes - Petri Dishes - Medium Discount	47.8%	Based on January List Price of Applicable	C029	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Dishes - Petri Dishes	Dishes - Petri Dishes - Medium Low Discount	23.5%	Based on January List Price of Applicable Calendar Year	C029	4
Consumables	Dishes - Petri Dishes	Dishes - Petri Dishes - Low Discount	28.5%	Based on January List Price of Applicable Calendar Year	C029	5
Consumables	Embedding Cassettes	Embedding Cassettes - High Discount	32.6%	Based on January List Price of Applicable Calendar Year	C078	1
Consumables	Embedding Cassettes	Embedding Cassettes - Medium High Discount	45.3%	Based on January List Price of Applicable Calendar Year	C078	2
Consumables	Embedding Cassettes	Embedding Cassettes - Medium Discount	41.4%	Based on January List Price of Applicable Calendar Year	C078	3
Consumables	Embedding Cassettes	Embedding Cassettes - Medium Low Discount	32.7%	Based on January List Price of Applicable Calendar Year	C078	4
Consumables	Embedding Cassettes	Embedding Cassettes - Low Discount	22.0%	Based on January List Price of Applicable	C078	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment (Safety)	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment (Safety) - High Discount	27.4%	Based on January List Price of Applicable Calendar Year	C059	1
Consumables	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment (Safety)	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment (Safety) - Medium High Discount	37.1%	Based on January List Price of Applicable Calendar Year	C059	2
Consumables	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment (Safety)	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment (Safety) - Medium Discount	37.3%	Based on January List Price of Applicable Calendar Year	C059	3
Consumables	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment (Safety)	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment (Safety) - Medium Low Discount	34.7%	Based on January List Price of Applicable Calendar Year	C059	4
Consumables	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment (Safety)	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment (Safety) - Low Discount	23.7%	Based on January List Price of Applicable Calendar Year	C059	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Facility Safety - Maintenance & Operations - Consumables(Safety)	Facility Safety - Maintenance & Operations - Consumables(Safety) - High Discount	56.2%	Based on January List Price of Applicable Calendar Year	C008	1
Consumables	Facility Safety - Maintenance & Operations - Consumables(Safety)	Facility Safety - Maintenance & Operations - Consumables(Safety) - Medium High Discount	50.2%	Based on January List Price of Applicable Calendar Year	C008	2
Consumables	Facility Safety - Maintenance & Operations - Consumables(Safety)	Facility Safety - Maintenance & Operations - Consumables(Safety) - Medium Discount	48.0%	Based on January List Price of Applicable Calendar Year	C008	3
Consumables	Facility Safety - Maintenance & Operations - Consumables(Safety)	Facility Safety - Maintenance & Operations - Consumables(Safety) - Medium Low Discount	40.6%	Based on January List Price of Applicable Calendar Year	C008	4
Consumables	Facility Safety - Maintenance & Operations - Consumables(Safety)	Facility Safety - Maintenance & Operations - Consumables(Safety) - Low Discount	38.2%	Based on January List Price of Applicable Calendar Year	C008	5
Consumables	Film and Foil Wrapping	Film and Foil Wrapping - Medium Discount	55.9%	Based on January List Price of Applicable Calendar Year	C082	3
Consumables	Film and Foil Wrapping	Film and Foil Wrapping - Medium Low Discount	32.5%	Based on January List Price of Applicable	C082	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Film and Foil Wrapping	Film and Foil Wrapping - Low Discount	15.8%	Based on January List Price of Applicable Calendar Year	C082	5
Consumables	Filtration Products - Bottletop Filters	Filtration Products - Bottletop Filters - High Discount	36.9%	Based on January List Price of Applicable Calendar Year	C019	1
Consumables	Filtration Products - Bottletop Filters	Filtration Products - Bottletop Filters - Medium High Discount	38.2%	Based on January List Price of Applicable Calendar Year	C019	2
Consumables	Filtration Products - Bottletop Filters	Filtration Products - Bottletop Filters - Medium Discount	34.4%	Based on January List Price of Applicable Calendar Year	C019	3
Consumables	Filtration Products - Bottletop Filters	Filtration Products - Bottletop Filters - Medium Low Discount	14.8%	Based on January List Price of Applicable Calendar Year	C019	4
Consumables	Filtration Products - Bottletop Filters	Filtration Products - Bottletop Filters - Low Discount	5.4%	Based on January List Price of Applicable Calendar Year	C019	5
Consumables	Filtration Products - Centrifugal Filter Devices	Filtration Products - Centrifugal Filter Devices - High	23.4%	Based on January List Price of Applicable	C022	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Discount		Calendar Year		
Consumables	Filtration Products - Centrifugal Filter Devices	Filtration Products - Centrifugal Filter Devices - Medium High Discount	29.7%	Based on January List Price of Applicable Calendar Year	C022	2
Consumables	Filtration Products - Centrifugal Filter Devices	Filtration Products - Centrifugal Filter Devices - Medium Discount	33.4%	Based on January List Price of Applicable Calendar Year	C022	3
Consumables	Filtration Products - Centrifugal Filter Devices	Filtration Products - Centrifugal Filter Devices - Medium Low Discount	34.2%	Based on January List Price of Applicable Calendar Year	C022	4
Consumables	Filtration Products - Centrifugal Filter Devices	Filtration Products - Centrifugal Filter Devices - Low Discount	7.4%	Based on January List Price of Applicable Calendar Year	C022	5
Consumables	Filtration Products - Filter Units	Filtration Products - Filter Units - High Discount	39.0%	Based on January List Price of Applicable Calendar Year	C054	1
Consumables	Filtration Products - Filter Units	Filtration Products - Filter Units - Medium High Discount	15.0%	Based on January List Price of Applicable Calendar Year	C054	2
Consumables	Filtration Products - Filter Units	Filtration Products - Filter Units - Medium Discount	32.2%	Based on January List Price of	C054	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Applicable Calendar Year		
Consumables	Filtration Products - Filter Units	Filtration Products - Filter Units - Medium Low Discount	28.1%	Based on January List Price of Applicable Calendar Year	C054	4
Consumables	Filtration Products - Filter Units	Filtration Products - Filter Units - Low Discount	37.3%	Based on January List Price of Applicable Calendar Year	C054	5
Consumables	Filtration Products - Other Filtration Products	Filtration Products - Other Filtration Products - High Discount	40.9%	Based on January List Price of Applicable Calendar Year	C003	1
Consumables	Filtration Products - Other Filtration Products	Filtration Products - Other Filtration Products - Medium High Discount	36.0%	Based on January List Price of Applicable Calendar Year	C003	2
Consumables	Filtration Products - Other Filtration Products	Filtration Products - Other Filtration Products - Medium Discount	27.6%	Based on January List Price of Applicable Calendar Year	C003	3
Consumables	Filtration Products - Other Filtration Products	Filtration Products - Other Filtration Products - Medium Low Discount	13.0%	Based on January List Price of Applicable Calendar Year	C003	4
Consumables	Filtration Products - Other Filtration Products	Filtration Products - Other Filtration Products - Low	33.4%	Based on January List Price of Applicable	C003	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Discount		Calendar Year		
Consumables	Filtration Products - Syringe and Syringeless Filters [Nonsterile]	Filtration Products - Syringe and Syringeless Filters [Nonsterile] - High Discount	43.9%	Based on January List Price of Applicable Calendar Year	C020	1
Consumables	Filtration Products - Syringe and Syringeless Filters [Nonsterile]	Filtration Products - Syringe and Syringeless Filters [Nonsterile] - Medium High Discount	20.9%	Based on January List Price of Applicable Calendar Year	C020	2
Consumables	Filtration Products - Syringe and Syringeless Filters [Nonsterile]	Filtration Products - Syringe and Syringeless Filters [Nonsterile] - Medium Discount	24.7%	Based on January List Price of Applicable Calendar Year	C020	3
Consumables	Filtration Products - Syringe and Syringeless Filters [Nonsterile]	Filtration Products - Syringe and Syringeless Filters [Nonsterile] - Medium Low Discount	26.8%	Based on January List Price of Applicable Calendar Year	C020	4
Consumables	Filtration Products - Syringe and Syringeless Filters [Nonsterile]	Filtration Products - Syringe and Syringeless Filters [Nonsterile] - Low Discount	57.2%	Based on January List Price of Applicable Calendar Year	C020	5
Consumables	Fire Fighting & Emergency Response – PPE (Safety)	Fire Fighting & Emergency Response – PPE (Safety) - Medium Low Discount	25.6%	Based on January List Price of Applicable Calendar Year	C085	4
Consumabl	Flasks - Other	Flasks - Other - Medium High	37.5%	Based on January List	C053	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
es		Discount		Price of Applicable Calendar Year		
Consumables	Flasks - Other	Flasks - Other - Medium Discount	40.1%	Based on January List Price of Applicable Calendar Year	C053	3
Consumables	Flasks - Other	Flasks - Other - Medium Low Discount	33.1%	Based on January List Price of Applicable Calendar Year	C053	4
Consumables	Flasks - Other	Flasks - Other - Low Discount	46.9%	Based on January List Price of Applicable Calendar Year	C053	5
Consumables	Flasks - Volumetric	Flasks - Volumetric - High Discount	43.9%	Based on January List Price of Applicable Calendar Year	C056	1
Consumables	Flasks - Volumetric	Flasks - Volumetric - Medium High Discount	45.2%	Based on January List Price of Applicable Calendar Year	C056	2
Consumables	Flasks - Volumetric	Flasks - Volumetric - Medium Discount	35.1%	Based on January List Price of Applicable Calendar Year	C056	3
Consumables	Flasks - Volumetric	Flasks - Volumetric - Medium Low	42.8%	Based on January List Price of	C056	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Discount		Applicable Calendar Year		
Consumables	Flasks - Volumetric	Flasks - Volumetric - Low Discount	48.2%	Based on January List Price of Applicable Calendar Year	C056	5
Consumables	Funnels	Funnels - Medium High Discount	59.0%	Based on January List Price of Applicable Calendar Year	C073	2
Consumables	Funnels	Funnels - Medium Discount	43.2%	Based on January List Price of Applicable Calendar Year	C073	3
Consumables	Funnels	Funnels - Medium Low Discount	30.4%	Based on January List Price of Applicable Calendar Year	C073	4
Consumables	Funnels	Funnels - Low Discount	57.0%	Based on January List Price of Applicable Calendar Year	C073	5
Consumables	Knives and Knife Blades	Knives and Knife Blades - High Discount	67.8%	Based on January List Price of Applicable Calendar Year	C080	1
Consumables	Knives and Knife Blades	Knives and Knife Blades - Medium High Discount	33.3%	Based on January List Price of Applicable	C080	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Knives and Knife Blades	Knives and Knife Blades - Medium Discount	36.6%	Based on January List Price of Applicable Calendar Year	C080	3
Consumables	Knives and Knife Blades	Knives and Knife Blades - Medium Low Discount	29.2%	Based on January List Price of Applicable Calendar Year	C080	4
Consumables	Knives and Knife Blades	Knives and Knife Blades - Low Discount	22.7%	Based on January List Price of Applicable Calendar Year	C080	5
Consumables	Membranes For Hybridization and Transfer	Membranes For Hybridization and Transfer - High Discount	36.8%	Based on January List Price of Applicable Calendar Year	C069	1
Consumables	Membranes For Hybridization and Transfer	Membranes For Hybridization and Transfer - Medium High Discount	36.7%	Based on January List Price of Applicable Calendar Year	C069	2
Consumables	Membranes For Hybridization and Transfer	Membranes For Hybridization and Transfer - Medium Discount	17.3%	Based on January List Price of Applicable Calendar Year	C069	3
Consumables	Membranes For Hybridization and Transfer	Membranes For Hybridization and Transfer - Medium	16.4%	Based on January List Price of Applicable	C069	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Low Discount		Calendar Year		
Consumables	Membranes For Hybridization and Transfer	Membranes For Hybridization and Transfer - Low Discount	32.0%	Based on January List Price of Applicable Calendar Year	C069	5
Consumables	Microplate Covers	Microplate Covers - High Discount	36.3%	Based on January List Price of Applicable Calendar Year	C055	1
Consumables	Microplate Covers	Microplate Covers - Medium High Discount	39.3%	Based on January List Price of Applicable Calendar Year	C055	2
Consumables	Microplate Covers	Microplate Covers - Medium Discount	23.5%	Based on January List Price of Applicable Calendar Year	C055	3
Consumables	Microplate Covers	Microplate Covers - Medium Low Discount	27.4%	Based on January List Price of Applicable Calendar Year	C055	4
Consumables	Microplate Covers	Microplate Covers - Low Discount	32.9%	Based on January List Price of Applicable Calendar Year	C055	5
Consumables	Microplates - Assay Microplates	Microplates - Assay Microplates - High Discount	28.9%	Based on January List Price of Applicable	C028	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Microplates - Assay Microplates	Microplates - Assay Microplates - Medium High Discount	36.4%	Based on January List Price of Applicable Calendar Year	C028	2
Consumables	Microplates - Assay Microplates	Microplates - Assay Microplates - Medium Discount	35.6%	Based on January List Price of Applicable Calendar Year	C028	3
Consumables	Microplates - Assay Microplates	Microplates - Assay Microplates - Medium Low Discount	31.2%	Based on January List Price of Applicable Calendar Year	C028	4
Consumables	Microplates - Assay Microplates	Microplates - Assay Microplates - Low Discount	36.6%	Based on January List Price of Applicable Calendar Year	C028	5
Consumables	Microplates - Other	Microplates - Other - High Discount	23.3%	Based on January List Price of Applicable Calendar Year	C015	1
Consumables	Microplates - Other	Microplates - Other - Medium High Discount	34.7%	Based on January List Price of Applicable Calendar Year	C015	2
Consumables	Microplates - Other	Microplates - Other - Medium Discount	30.4%	Based on January List Price of Applicable	C015	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Microplates - Other	Microplates - Other - Medium Low Discount	11.3%	Based on January List Price of Applicable Calendar Year	C015	4
Consumables	Microplates - Other	Microplates - Other - Low Discount	59.5%	Based on January List Price of Applicable Calendar Year	C015	5
Consumables	Microscope Slides	Microscope Slides - Medium Discount	43.8%	Based on January List Price of Applicable Calendar Year	C007	3
Consumables	Microscope Slides	Microscope Slides - Medium Low Discount	24.3%	Based on January List Price of Applicable Calendar Year	C007	4
Consumables	Microscope Slides	Microscope Slides - Low Discount	52.7%	Based on January List Price of Applicable Calendar Year	C007	5
Consumables	Pipets - Other	Pipets - Other - High Discount	47.8%	Based on January List Price of Applicable Calendar Year	C043	1
Consumables	Pipets - Other	Pipets - Other - Medium High Discount	43.5%	Based on January List Price of Applicable	C043	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Pipets - Other	Pipets - Other - Medium Discount	34.3%	Based on January List Price of Applicable Calendar Year	C043	3
Consumables	Pipets - Other	Pipets - Other - Medium Low Discount	32.0%	Based on January List Price of Applicable Calendar Year	C043	4
Consumables	Pipets - Other	Pipets - Other - Low Discount	58.0%	Based on January List Price of Applicable Calendar Year	C043	5
Consumables	Pipets - Serological Pipets	Pipets - Serological Pipets - High Discount	65.0%	Based on January List Price of Applicable Calendar Year	C005	1
Consumables	Pipets - Serological Pipets	Pipets - Serological Pipets - Medium High Discount	42.5%	Based on January List Price of Applicable Calendar Year	C005	2
Consumables	Pipets - Serological Pipets	Pipets - Serological Pipets - Medium Discount	35.0%	Based on January List Price of Applicable Calendar Year	C005	3
Consumables	Pipets - Serological Pipets	Pipets - Serological Pipets - Medium Low Discount	44.0%	Based on January List Price of Applicable	C005	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Pipets - Serological Pipets	Pipets - Serological Pipets - Low Discount	66.1%	Based on January List Price of Applicable Calendar Year	C005	5
Consumables	Pipets - Transfer Pipets	Pipets - Transfer Pipets - Medium High Discount	66.6%	Based on January List Price of Applicable Calendar Year	C034	2
Consumables	Pipets - Transfer Pipets	Pipets - Transfer Pipets - Medium Discount	66.1%	Based on January List Price of Applicable Calendar Year	C034	3
Consumables	Pipets - Transfer Pipets	Pipets - Transfer Pipets - Medium Low Discount	57.6%	Based on January List Price of Applicable Calendar Year	C034	4
Consumables	Pipets - Transfer Pipets	Pipets - Transfer Pipets - Low Discount	43.9%	Based on January List Price of Applicable Calendar Year	C034	5
Consumables	Pipetter Tips - Filtering Pipetter Tips	Pipetter Tips - Filtering Pipetter Tips - Medium High Discount	41.9%	Based on January List Price of Applicable Calendar Year	C025	2
Consumables	Pipetter Tips - Filtering Pipetter Tips	Pipetter Tips - Filtering Pipetter Tips - Medium	37.8%	Based on January List Price of Applicable	C025	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Discount		Calendar Year		
Consumables	Pipetter Tips - Filtering Pipetter Tips	Pipetter Tips - Filtering Pipetter Tips - Medium Low Discount	5.1%	Based on January List Price of Applicable Calendar Year	C025	4
Consumables	Pipetter Tips - Filtering Pipetter Tips	Pipetter Tips - Filtering Pipetter Tips - Low Discount	45.3%	Based on January List Price of Applicable Calendar Year	C025	5
Consumables	Pipetter Tips - Other	Pipetter Tips - Other - High Discount	29.7%	Based on January List Price of Applicable Calendar Year	C083	1
Consumables	Pipetter Tips - Other	Pipetter Tips - Other - Medium High Discount	35.9%	Based on January List Price of Applicable Calendar Year	C083	2
Consumables	Pipetter Tips - Other	Pipetter Tips - Other - Medium Discount	35.0%	Based on January List Price of Applicable Calendar Year	C083	3
Consumables	Pipetter Tips - Other	Pipetter Tips - Other - Medium Low Discount	30.0%	Based on January List Price of Applicable Calendar Year	C083	4
Consumables	Pipetter Tips - Other	Pipetter Tips - Other - Low Discount	35.2%	Based on January List Price of Applicable	C083	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	Pipetter Tips - Pipetter Specific Tips	Pipetter Tips - Pipetter Specific Tips - High Discount	27.7%	Based on January List Price of Applicable Calendar Year	C023	1
Consumables	Pipetter Tips - Pipetter Specific Tips	Pipetter Tips - Pipetter Specific Tips - Medium High Discount	34.5%	Based on January List Price of Applicable Calendar Year	C023	2
Consumables	Pipetter Tips - Pipetter Specific Tips	Pipetter Tips - Pipetter Specific Tips - Medium Discount	25.0%	Based on January List Price of Applicable Calendar Year	C023	3
Consumables	Pipetter Tips - Pipetter Specific Tips	Pipetter Tips - Pipetter Specific Tips - Medium Low Discount	6.0%	Based on January List Price of Applicable Calendar Year	C023	4
Consumables	Pipetter Tips - Pipetter Specific Tips	Pipetter Tips - Pipetter Specific Tips - Low Discount	33.9%	Based on January List Price of Applicable Calendar Year	C023	5
Consumables	Pipetter Tips - Repeater Pipetter Tips	Pipetter Tips - Repeater Pipetter Tips - High Discount	33.1%	Based on January List Price of Applicable Calendar Year	C092	1
Consumables	Pipetter Tips - Repeater Pipetter Tips	Pipetter Tips - Repeater Pipetter Tips - Medium	31.2%	Based on January List Price of Applicable	C092	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Discount		Calendar Year		
Consumables	Pipetter Tips - Repeater Pipetter Tips	Pipetter Tips - Repeater Pipetter Tips - Low Discount	22.7%	Based on January List Price of Applicable Calendar Year	C092	5
Consumables	Pipetter Tips - Robotic Pipetter Tips	Pipetter Tips - Robotic Pipetter Tips - High Discount	27.0%	Based on January List Price of Applicable Calendar Year	C081	1
Consumables	Pipetter Tips - Robotic Pipetter Tips	Pipetter Tips - Robotic Pipetter Tips - Medium Discount	36.5%	Based on January List Price of Applicable Calendar Year	C081	3
Consumables	Pipetter Tips - Robotic Pipetter Tips	Pipetter Tips - Robotic Pipetter Tips - Medium Low Discount	11.7%	Based on January List Price of Applicable Calendar Year	C081	4
Consumables	Pipetter Tips - Universal Pipetter Tips	Pipetter Tips - Universal Pipetter Tips - High Discount	45.0%	Based on January List Price of Applicable Calendar Year	C011	1
Consumables	Pipetter Tips - Universal Pipetter Tips	Pipetter Tips - Universal Pipetter Tips - Medium High Discount	35.2%	Based on January List Price of Applicable Calendar Year	C011	2
Consumables	Pipetter Tips - Universal Pipetter Tips	Pipetter Tips - Universal Pipetter Tips - Medium	37.0%	Based on January List Price of Applicable	C011	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Discount		Calendar Year		
Consumables	Pipetter Tips - Universal Pipetter Tips	Pipetter Tips - Universal Pipetter Tips - Medium Low Discount	26.1%	Based on January List Price of Applicable Calendar Year	C011	4
Consumables	Pipetter Tips - Universal Pipetter Tips	Pipetter Tips - Universal Pipetter Tips - Low Discount	47.1%	Based on January List Price of Applicable Calendar Year	C011	5
Consumables	PPE – Apparel (Safety)	PPE – Apparel (Safety) - High Discount	59.8%	Based on January List Price of Applicable Calendar Year	C012	1
Consumables	PPE – Apparel (Safety)	PPE – Apparel (Safety) - Medium High Discount	52.6%	Based on January List Price of Applicable Calendar Year	C012	2
Consumables	PPE – Apparel (Safety)	PPE – Apparel (Safety) - Medium Discount	42.1%	Based on January List Price of Applicable Calendar Year	C012	3
Consumables	PPE – Apparel (Safety)	PPE – Apparel (Safety) - Medium Low Discount	25.7%	Based on January List Price of Applicable Calendar Year	C012	4
Consumables	PPE – Apparel (Safety)	PPE – Apparel (Safety) - Low Discount	40.8%	Based on January List Price of Applicable	C012	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Consumables	PPE – Eye, Face, and Hearing (Safety)	PPE – Eye, Face, and Hearing (Safety) - High Discount	37.0%	Based on January List Price of Applicable Calendar Year	C052	1
Consumables	PPE – Eye, Face, and Hearing (Safety)	PPE – Eye, Face, and Hearing (Safety) - Medium High Discount	39.6%	Based on January List Price of Applicable Calendar Year	C052	2
Consumables	PPE – Eye, Face, and Hearing (Safety)	PPE – Eye, Face, and Hearing (Safety) - Medium Discount	42.9%	Based on January List Price of Applicable Calendar Year	C052	3
Consumables	PPE – Eye, Face, and Hearing (Safety)	PPE – Eye, Face, and Hearing (Safety) - Medium Low Discount	36.0%	Based on January List Price of Applicable Calendar Year	C052	4
Consumables	PPE – Eye, Face, and Hearing (Safety)	PPE – Eye, Face, and Hearing (Safety) - Low Discount	36.3%	Based on January List Price of Applicable Calendar Year	C052	5
Consumables	PPE – Hand Protection – Chemical Resistant Gloves (Safety)	PPE – Hand Protection – Chemical Resistant Gloves (Safety) - Medium Low Discount	31.8%	Based on January List Price of Applicable Calendar Year	C077	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	PPE – Hand Protection – Chemical Resistant Gloves (Safety)	PPE – Hand Protection – Chemical Resistant Gloves (Safety) - Low Discount	50.0%	Based on January List Price of Applicable Calendar Year	C077	5
Consumables	PPE – Hand Protection – Thin-Wall Gloves (Safety)	PPE – Hand Protection – Thin-Wall Gloves (Safety) - Medium High Discount	66.3%	Based on January List Price of Applicable Calendar Year	C002	2
Consumables	PPE – Hand Protection – Thin-Wall Gloves (Safety)	PPE – Hand Protection – Thin-Wall Gloves (Safety) - Medium Discount	44.0%	Based on January List Price of Applicable Calendar Year	C002	3
Consumables	PPE – Hand Protection – Thin-Wall Gloves (Safety)	PPE – Hand Protection – Thin-Wall Gloves (Safety) - Medium Low Discount	45.0%	Based on January List Price of Applicable Calendar Year	C002	4
Consumables	PPE – Hand Protection – Thin-Wall Gloves (Safety)	PPE – Hand Protection – Thin-Wall Gloves (Safety) - Low Discount	38.4%	Based on January List Price of Applicable Calendar Year	C002	5
Consumables	PPE – Hand Protection – Work & Specialty Gloves (Safety)	PPE – Hand Protection – Work & Specialty Gloves (Safety) - Medium High Discount	35.8%	Based on January List Price of Applicable Calendar Year	C063	2
Consumables	PPE – Hand Protection – Work & Specialty Gloves (Safety)	PPE – Hand Protection – Work & Specialty Gloves (Safety) - Medium Discount	38.7%	Based on January List Price of Applicable Calendar Year	C063	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	PPE – Hand Protection – Work & Specialty Gloves (Safety)	PPE – Hand Protection – Work & Specialty Gloves (Safety) - Medium Low Discount	38.2%	Based on January List Price of Applicable Calendar Year	C063	4
Consumables	PPE – Hand Protection – Work & Specialty Gloves (Safety)	PPE – Hand Protection – Work & Specialty Gloves (Safety) - Low Discount	40.7%	Based on January List Price of Applicable Calendar Year	C063	5
Consumables	PPE – Head Protection (Safety)	PPE – Head Protection (Safety) - Medium Discount	41.3%	Based on January List Price of Applicable Calendar Year	C093	3
Consumables	PPE – Head Protection (Safety)	PPE – Head Protection (Safety) - Medium Low Discount	40.1%	Based on January List Price of Applicable Calendar Year	C093	4
Consumables	Reservoirs and Reservoir Liners	Reservoirs and Reservoir Liners - Medium High Discount	47.3%	Based on January List Price of Applicable Calendar Year	C064	2
Consumables	Reservoirs and Reservoir Liners	Reservoirs and Reservoir Liners - Medium Discount	28.0%	Based on January List Price of Applicable Calendar Year	C064	3
Consumables	Reservoirs and Reservoir Liners	Reservoirs and Reservoir Liners - Medium Low Discount	20.1%	Based on January List Price of Applicable Calendar Year	C064	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Reservoirs and Reservoir Liners	Reservoirs and Reservoir Liners - Low Discount	33.1%	Based on January List Price of Applicable Calendar Year	C064	5
Consumables	Samplers	Samplers - High Discount	36.8%	Based on January List Price of Applicable Calendar Year	C088	1
Consumables	Samplers	Samplers - Medium High Discount	41.8%	Based on January List Price of Applicable Calendar Year	C088	2
Consumables	Samplers	Samplers - Medium Discount	30.3%	Based on January List Price of Applicable Calendar Year	C088	3
Consumables	Samplers	Samplers - Medium Low Discount	32.1%	Based on January List Price of Applicable Calendar Year	C088	4
Consumables	Samplers	Samplers - Low Discount	50.2%	Based on January List Price of Applicable Calendar Year	C088	5
Consumables	Spatulas [General Purpose]	Spatulas [General Purpose] - Medium High Discount	43.5%	Based on January List Price of Applicable Calendar Year	C089	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Spatulas [General Purpose]	Spatulas [General Purpose] - Medium Discount	49.1%	Based on January List Price of Applicable Calendar Year	C089	3
Consumables	Spatulas [General Purpose]	Spatulas [General Purpose] - Medium Low Discount	34.6%	Based on January List Price of Applicable Calendar Year	C089	4
Consumables	Spatulas [General Purpose]	Spatulas [General Purpose] - Low Discount	43.9%	Based on January List Price of Applicable Calendar Year	C089	5
Consumables	Specimen Collection - Blood Specimen Collection	Specimen Collection - Blood Specimen Collection - High Discount	44.4%	Based on January List Price of Applicable Calendar Year	C047	1
Consumables	Specimen Collection - Blood Specimen Collection	Specimen Collection - Blood Specimen Collection - Medium High Discount	30.5%	Based on January List Price of Applicable Calendar Year	C047	2
Consumables	Specimen Collection - Blood Specimen Collection	Specimen Collection - Blood Specimen Collection - Medium Discount	29.2%	Based on January List Price of Applicable Calendar Year	C047	3
Consumables	Specimen Collection - Blood Specimen Collection	Specimen Collection - Blood Specimen Collection - Medium Low Discount	27.5%	Based on January List Price of Applicable Calendar Year	C047	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Specimen Collection - Blood Specimen Collection	Specimen Collection - Blood Specimen Collection - Low Discount	36.5%	Based on January List Price of Applicable Calendar Year	C047	5
Consumables	Specimen Collection - Evacuated Blood Tubes	Specimen Collection - Evacuated Blood Tubes - High Discount	33.8%	Based on January List Price of Applicable Calendar Year	C006	1
Consumables	Specimen Collection - Evacuated Blood Tubes	Specimen Collection - Evacuated Blood Tubes - Medium High Discount	37.3%	Based on January List Price of Applicable Calendar Year	C006	2
Consumables	Specimen Collection - Evacuated Blood Tubes	Specimen Collection - Evacuated Blood Tubes - Medium Discount	36.5%	Based on January List Price of Applicable Calendar Year	C006	3
Consumables	Specimen Collection - Evacuated Blood Tubes	Specimen Collection - Evacuated Blood Tubes - Medium Low Discount	31.2%	Based on January List Price of Applicable Calendar Year	C006	4
Consumables	Specimen Collection - Microbiology and Transport Systems	Specimen Collection - Microbiology and Transport Systems - High Discount	24.3%	Based on January List Price of Applicable Calendar Year	C042	1
Consumables	Specimen Collection - Microbiology and Transport Systems	Specimen Collection - Microbiology and Transport Systems - Medium High Discount	40.7%	Based on January List Price of Applicable Calendar Year	C042	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Specimen Collection - Microbiology and Transport Systems	Specimen Collection - Microbiology and Transport Systems - Medium Discount	16.4%	Based on January List Price of Applicable Calendar Year	C042	3
Consumables	Specimen Collection - Microbiology and Transport Systems	Specimen Collection - Microbiology and Transport Systems - Medium Low Discount	28.5%	Based on January List Price of Applicable Calendar Year	C042	4
Consumables	Specimen Collection - Microbiology and Transport Systems	Specimen Collection - Microbiology and Transport Systems - Low Discount	45.0%	Based on January List Price of Applicable Calendar Year	C042	5
Consumables	Specimen Collection - Other	Specimen Collection - Other - High Discount	46.1%	Based on January List Price of Applicable Calendar Year	C067	1
Consumables	Specimen Collection - Other	Specimen Collection - Other - Medium Discount	32.6%	Based on January List Price of Applicable Calendar Year	C067	3
Consumables	Specimen Collection - Other	Specimen Collection - Other - Medium Low Discount	29.0%	Based on January List Price of Applicable Calendar Year	C067	4
Consumables	Specimen Collection - Other	Specimen Collection - Other - Low Discount	29.0%	Based on January List Price of Applicable Calendar Year	C067	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Specimen Collection - Tube Needles	Specimen Collection - Tube Needles - Medium Discount	37.3%	Based on January List Price of Applicable Calendar Year	C060	3
Consumables	Specimen Collection - Tube Needles	Specimen Collection - Tube Needles - Medium Low Discount	25.2%	Based on January List Price of Applicable Calendar Year	C060	4
Consumables	Specimen Collection - Tube Needles	Specimen Collection - Tube Needles - Low Discount	42.3%	Based on January List Price of Applicable Calendar Year	C060	5
Consumables	Specimen Collection - Tubes for Blood Collection	Specimen Collection - Tubes for Blood Collection - High Discount	33.4%	Based on January List Price of Applicable Calendar Year	C048	1
Consumables	Specimen Collection - Tubes for Blood Collection	Specimen Collection - Tubes for Blood Collection - Medium High Discount	36.2%	Based on January List Price of Applicable Calendar Year	C048	2
Consumables	Specimen Collection - Tubes for Blood Collection	Specimen Collection - Tubes for Blood Collection - Medium Discount	32.9%	Based on January List Price of Applicable Calendar Year	C048	3
Consumables	Specimen Collection - Tubes for Blood Collection	Specimen Collection - Tubes for Blood Collection - Medium Low Discount	32.9%	Based on January List Price of Applicable Calendar Year	C048	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Specimen Collection - Tubes for Blood Collection	Specimen Collection - Tubes for Blood Collection - Low Discount	59.8%	Based on January List Price of Applicable Calendar Year	C048	5
Consumables	Specimen Collection - Urine Specimen Collection	Specimen Collection - Urine Specimen Collection - High Discount	64.1%	Based on January List Price of Applicable Calendar Year	C045	1
Consumables	Specimen Collection - Urine Specimen Collection	Specimen Collection - Urine Specimen Collection - Medium High Discount	41.1%	Based on January List Price of Applicable Calendar Year	C045	2
Consumables	Specimen Collection - Urine Specimen Collection	Specimen Collection - Urine Specimen Collection - Medium Discount	36.9%	Based on January List Price of Applicable Calendar Year	C045	3
Consumables	Specimen Collection - Urine Specimen Collection	Specimen Collection - Urine Specimen Collection - Medium Low Discount	32.1%	Based on January List Price of Applicable Calendar Year	C045	4
Consumables	Specimen Collection - Winged Collection Set	Specimen Collection - Winged Collection Set - Medium High Discount	33.0%	Based on January List Price of Applicable Calendar Year	C027	2
Consumables	Specimen Collection - Winged Collection Set	Specimen Collection - Winged Collection Set - Medium Discount	37.4%	Based on January List Price of Applicable Calendar Year	C027	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Specimen Collection - Winged Collection Set	Specimen Collection - Winged Collection Set - Medium Low Discount	31.8%	Based on January List Price of Applicable Calendar Year	C027	4
Consumables	Specimen Collection - Winged Collection Set	Specimen Collection - Winged Collection Set - Low Discount	47.4%	Based on January List Price of Applicable Calendar Year	C027	5
Consumables	Specimen Containers	Specimen Containers - High Discount	53.2%	Based on January List Price of Applicable Calendar Year	C017	1
Consumables	Specimen Containers	Specimen Containers - Medium High Discount	54.8%	Based on January List Price of Applicable Calendar Year	C017	2
Consumables	Specimen Containers	Specimen Containers - Medium Discount	45.9%	Based on January List Price of Applicable Calendar Year	C017	3
Consumables	Specimen Containers	Specimen Containers - Medium Low Discount	26.7%	Based on January List Price of Applicable Calendar Year	C017	4
Consumables	Specimen Containers	Specimen Containers - Low Discount	57.9%	Based on January List Price of Applicable Calendar Year	C017	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Stirring Bars and Rods	Stirring Bars and Rods - Medium Discount	60.4%	Based on January List Price of Applicable Calendar Year	C084	3
Consumables	Stirring Bars and Rods	Stirring Bars and Rods - Medium Low Discount	51.5%	Based on January List Price of Applicable Calendar Year	C084	4
Consumables	Stirring Bars and Rods	Stirring Bars and Rods - Low Discount	44.2%	Based on January List Price of Applicable Calendar Year	C084	5
Consumables	Stoppers	Stoppers - High Discount	44.2%	Based on January List Price of Applicable Calendar Year	C086	1
Consumables	Stoppers	Stoppers - Medium High Discount	49.8%	Based on January List Price of Applicable Calendar Year	C086	2
Consumables	Stoppers	Stoppers - Medium Discount	45.3%	Based on January List Price of Applicable Calendar Year	C086	3
Consumables	Stoppers	Stoppers - Medium Low Discount	30.8%	Based on January List Price of Applicable Calendar Year	C086	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Stoppers	Stoppers - Low Discount	31.8%	Based on January List Price of Applicable Calendar Year	C086	5
Consumables	Syringes - General Purpose Syringes	Syringes - General Purpose Syringes - Medium High Discount	29.5%	Based on January List Price of Applicable Calendar Year	C036	2
Consumables	Syringes - General Purpose Syringes	Syringes - General Purpose Syringes - Medium Discount	29.8%	Based on January List Price of Applicable Calendar Year	C036	3
Consumables	Syringes - General Purpose Syringes	Syringes - General Purpose Syringes - Medium Low Discount	29.6%	Based on January List Price of Applicable Calendar Year	C036	4
Consumables	Syringes - General Purpose Syringes	Syringes - General Purpose Syringes - Low Discount	34.3%	Based on January List Price of Applicable Calendar Year	C036	5
Consumables	Syringes - Other	Syringes - Other - High Discount	35.0%	Based on January List Price of Applicable Calendar Year	C050	1
Consumables	Syringes - Other	Syringes - Other - Medium High Discount	36.2%	Based on January List Price of Applicable Calendar Year	C050	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Syringes - Other	Syringes - Other - Medium Discount	26.2%	Based on January List Price of Applicable Calendar Year	C050	3
Consumables	Syringes - Other	Syringes - Other - Medium Low Discount	25.0%	Based on January List Price of Applicable Calendar Year	C050	4
Consumables	Syringes - Other	Syringes - Other - Low Discount	50.9%	Based on January List Price of Applicable Calendar Year	C050	5
Consumables	Tubes - Centrifuge Tubes	Tubes - Centrifuge Tubes - High Discount	52.3%	Based on January List Price of Applicable Calendar Year	C010	1
Consumables	Tubes - Centrifuge Tubes	Tubes - Centrifuge Tubes - Medium High Discount	42.1%	Based on January List Price of Applicable Calendar Year	C010	2
Consumables	Tubes - Centrifuge Tubes	Tubes - Centrifuge Tubes - Medium Discount	44.1%	Based on January List Price of Applicable Calendar Year	C010	3
Consumables	Tubes - Centrifuge Tubes	Tubes - Centrifuge Tubes - Medium Low Discount	37.2%	Based on January List Price of Applicable Calendar Year	C010	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Tubes - Centrifuge Tubes	Tubes - Centrifuge Tubes - Low Discount	58.2%	Based on January List Price of Applicable Calendar Year	C010	5
Consumables	Tubes - Microtubes	Tubes - Microtubes - Medium High Discount	40.9%	Based on January List Price of Applicable Calendar Year	C035	2
Consumables	Tubes - Microtubes	Tubes - Microtubes - Medium Discount	34.3%	Based on January List Price of Applicable Calendar Year	C035	3
Consumables	Tubes - Microtubes	Tubes - Microtubes - Medium Low Discount	9.2%	Based on January List Price of Applicable Calendar Year	C035	4
Consumables	Tubes - Microtubes	Tubes - Microtubes - Low Discount	25.0%	Based on January List Price of Applicable Calendar Year	C035	5
Consumables	Tubes - Other	Tubes - Other - High Discount	26.5%	Based on January List Price of Applicable Calendar Year	C066	1
Consumables	Tubes - Other	Tubes - Other - Medium High Discount	35.0%	Based on January List Price of Applicable Calendar Year	C066	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Tubes - Other	Tubes - Other - Medium Discount	33.0%	Based on January List Price of Applicable Calendar Year	C066	3
Consumables	Tubes - Other	Tubes - Other - Medium Low Discount	15.3%	Based on January List Price of Applicable Calendar Year	C066	4
Consumables	Tubes - Other	Tubes - Other - Low Discount	36.7%	Based on January List Price of Applicable Calendar Year	C066	5
Consumables	Tubes - Storage Tubes	Tubes - Storage Tubes - Medium High Discount	35.6%	Based on January List Price of Applicable Calendar Year	C031	2
Consumables	Tubes - Storage Tubes	Tubes - Storage Tubes - Medium Discount	37.1%	Based on January List Price of Applicable Calendar Year	C031	3
Consumables	Tubes - Storage Tubes	Tubes - Storage Tubes - Medium Low Discount	31.8%	Based on January List Price of Applicable Calendar Year	C031	4
Consumables	Tubes - Storage Tubes	Tubes - Storage Tubes - Low Discount	52.8%	Based on January List Price of Applicable Calendar Year	C031	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Tubes - Test Tubes	Tubes - Test Tubes - High Discount	58.1%	Based on January List Price of Applicable Calendar Year	C030	1
Consumables	Tubes - Test Tubes	Tubes - Test Tubes - Medium High Discount	47.9%	Based on January List Price of Applicable Calendar Year	C030	2
Consumables	Tubes - Test Tubes	Tubes - Test Tubes - Medium Discount	43.5%	Based on January List Price of Applicable Calendar Year	C030	3
Consumables	Tubes - Test Tubes	Tubes - Test Tubes - Medium Low Discount	34.4%	Based on January List Price of Applicable Calendar Year	C030	4
Consumables	Tubes - Test Tubes	Tubes - Test Tubes - Low Discount	57.7%	Based on January List Price of Applicable Calendar Year	C030	5
Consumables	Tubes - Tube Closures	Tubes - Tube Closures - Medium Discount	58.3%	Based on January List Price of Applicable Calendar Year	C062	3
Consumables	Tubes - Tube Closures	Tubes - Tube Closures - Medium Low Discount	38.1%	Based on January List Price of Applicable Calendar Year	C062	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Tubes - Tube Closures	Tubes - Tube Closures - Low Discount	41.6%	Based on January List Price of Applicable Calendar Year	C062	5
Consumables	Tubing and Tubing Connectors	Tubing and Tubing Connectors - High Discount	42.3%	Based on January List Price of Applicable Calendar Year	C044	1
Consumables	Tubing and Tubing Connectors	Tubing and Tubing Connectors - Medium High Discount	49.9%	Based on January List Price of Applicable Calendar Year	C044	2
Consumables	Tubing and Tubing Connectors	Tubing and Tubing Connectors - Medium Discount	49.2%	Based on January List Price of Applicable Calendar Year	C044	3
Consumables	Tubing and Tubing Connectors	Tubing and Tubing Connectors - Medium Low Discount	39.4%	Based on January List Price of Applicable Calendar Year	C044	4
Consumables	Tubing and Tubing Connectors	Tubing and Tubing Connectors - Low Discount	39.5%	Based on January List Price of Applicable Calendar Year	C044	5
Consumables	Vials and Vial Inserts	Vials and Vial Inserts - High Discount	31.7%	Based on January List Price of Applicable Calendar Year	C004	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Vials and Vial Inserts	Vials and Vial Inserts - Medium High Discount	38.9%	Based on January List Price of Applicable Calendar Year	C004	2
Consumables	Vials and Vial Inserts	Vials and Vial Inserts - Medium Discount	26.7%	Based on January List Price of Applicable Calendar Year	C004	3
Consumables	Vials and Vial Inserts	Vials and Vial Inserts - Medium Low Discount	20.0%	Based on January List Price of Applicable Calendar Year	C004	4
Consumables	Vials and Vial Inserts	Vials and Vial Inserts - Low Discount	42.9%	Based on January List Price of Applicable Calendar Year	C004	5
Consumables	Waste Disposal Containers	Waste Disposal Containers - High Discount	47.5%	Based on January List Price of Applicable Calendar Year	C071	1
Consumables	Waste Disposal Containers	Waste Disposal Containers - Medium Discount	35.7%	Based on January List Price of Applicable Calendar Year	C071	3
Consumables	Waste Disposal Containers	Waste Disposal Containers - Medium Low Discount	30.7%	Based on January List Price of Applicable Calendar Year	C071	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Consumables	Waste Disposal Containers	Waste Disposal Containers - Low Discount	31.3%	Based on January List Price of Applicable Calendar Year	C071	5
Consumables	Water and Wastewater Testing Supplies	Water and Wastewater Testing Supplies - High Discount	38.3%	Based on January List Price of Applicable Calendar Year	C057	1
Consumables	Water and Wastewater Testing Supplies	Water and Wastewater Testing Supplies - Medium High Discount	33.3%	Based on January List Price of Applicable Calendar Year	C057	2
Consumables	Water and Wastewater Testing Supplies	Water and Wastewater Testing Supplies - Medium Discount	27.9%	Based on January List Price of Applicable Calendar Year	C057	3
Consumables	Water and Wastewater Testing Supplies	Water and Wastewater Testing Supplies - Medium Low Discount	18.6%	Based on January List Price of Applicable Calendar Year	C057	4
Consumables	Water and Wastewater Testing Supplies	Water and Wastewater Testing Supplies - Low Discount	16.7%	Based on January List Price of Applicable Calendar Year	C057	5
Diagnostics	Antibody Production and Purification	Antibody Production and Purification - Medium High Discount	13.4%	Based on January List Price of Applicable Calendar Year	D022	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Diagnostics	Antibody Production and Purification	Antibody Production and Purification - Medium Discount	11.8%	Based on January List Price of Applicable Calendar Year	D022	3
Diagnostics	Antibody Production and Purification	Antibody Production and Purification - Medium Low Discount	10.7%	Based on January List Price of Applicable Calendar Year	D022	4
Diagnostics	Antibody Production and Purification	Antibody Production and Purification - Low Discount	22.9%	Based on January List Price of Applicable Calendar Year	D022	5
Diagnostics	Clinical Controls Calibrators and Standards	Clinical Controls Calibrators and Standards - Medium High Discount	32.4%	Based on January List Price of Applicable Calendar Year	D003	2
Diagnostics	Clinical Controls Calibrators and Standards	Clinical Controls Calibrators and Standards - Medium Discount	13.3%	Based on January List Price of Applicable Calendar Year	D003	3
Diagnostics	Clinical Diagnostic Kits and Reagents - General Chemistry Testing	Clinical Diagnostic Kits and Reagents - General Chemistry Testing - High Discount	33.2%	Based on January List Price of Applicable Calendar Year	D013	1
Diagnostics	Clinical Diagnostic Kits and Reagents - General Chemistry Testing	Clinical Diagnostic Kits and Reagents - General Chemistry Testing - Medium High Discount	22.2%	Based on January List Price of Applicable Calendar Year	D013	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Diagnostics	Clinical Diagnostic Kits and Reagents - General Chemistry Testing	Clinical Diagnostic Kits and Reagents - General Chemistry Testing - Medium Discount	32.7%	Based on January List Price of Applicable Calendar Year	D013	3
Diagnostics	Clinical Diagnostic Kits and Reagents - General Chemistry Testing	Clinical Diagnostic Kits and Reagents - General Chemistry Testing - Medium Low Discount	21.9%	Based on January List Price of Applicable Calendar Year	D013	4
Diagnostics	Clinical Diagnostic Kits and Reagents - General Chemistry Testing	Clinical Diagnostic Kits and Reagents - General Chemistry Testing - Low Discount	21.9%	Based on January List Price of Applicable Calendar Year	D013	5
Diagnostics	Clinical Diagnostic Kits and Reagents - Influenza Testing	Clinical Diagnostic Kits and Reagents - Influenza Testing - Medium High Discount	12.1%	Based on January List Price of Applicable Calendar Year	D005	2
Diagnostics	Clinical Diagnostic Kits and Reagents - Other	Clinical Diagnostic Kits and Reagents - Other - High Discount	26.2%	Based on January List Price of Applicable Calendar Year	D002	1
Diagnostics	Clinical Diagnostic Kits and Reagents - Other	Clinical Diagnostic Kits and Reagents - Other - Medium High Discount	38.5%	Based on January List Price of Applicable Calendar Year	D002	2
Diagnostics	Clinical Diagnostic Kits and Reagents - Other	Clinical Diagnostic Kits and Reagents - Other - Medium Discount	23.6%	Based on January List Price of Applicable Calendar Year	D002	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Diagnostics	Clinical Diagnostic Kits and Reagents - Other	Clinical Diagnostic Kits and Reagents - Other - Medium Low Discount	37.6%	Based on January List Price of Applicable Calendar Year	D002	4
Diagnostics	Clinical Diagnostic Kits and Reagents - Other	Clinical Diagnostic Kits and Reagents - Other - Low Discount	32.9%	Based on January List Price of Applicable Calendar Year	D002	5
Diagnostics	Clinical Diagnostic Kits and Reagents - Pregnancy [hCG] Tests	Clinical Diagnostic Kits and Reagents - Pregnancy [hCG] Tests - Medium Discount	39.1%	Based on January List Price of Applicable Calendar Year	D007	3
Diagnostics	Clinical Diagnostic Kits and Reagents - Pregnancy [hCG] Tests	Clinical Diagnostic Kits and Reagents - Pregnancy [hCG] Tests - Medium Low Discount	15.7%	Based on January List Price of Applicable Calendar Year	D007	4
Diagnostics	Clinical Diagnostic Kits and Reagents - Pregnancy [hCG] Tests	Clinical Diagnostic Kits and Reagents - Pregnancy [hCG] Tests - Low Discount	22.7%	Based on January List Price of Applicable Calendar Year	D007	5
Diagnostics	Clinical Diagnostic Kits and Reagents - Streptococcus Testing	Clinical Diagnostic Kits and Reagents - Streptococcus Testing - Medium Discount	15.9%	Based on January List Price of Applicable Calendar Year	D008	3
Diagnostics	Clinical Diagnostic Kits and Reagents - Streptococcus Testing	Clinical Diagnostic Kits and Reagents - Streptococcus Testing - Medium Low Discount	24.5%	Based on January List Price of Applicable Calendar Year	D008	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Diagnostics	Clinical Diagnostic Kits and Reagents - Streptococcus Testing	Clinical Diagnostic Kits and Reagents - Streptococcus Testing - Low Discount	28.7%	Based on January List Price of Applicable Calendar Year	D008	5
Diagnostics	Clinical Diagnostic Kits and Reagents - Urinalysis Testing	Clinical Diagnostic Kits and Reagents - Urinalysis Testing - High Discount	23.0%	Based on January List Price of Applicable Calendar Year	D017	1
Diagnostics	Clinical Diagnostic Kits and Reagents - Urinalysis Testing	Clinical Diagnostic Kits and Reagents - Urinalysis Testing - Medium Discount	24.3%	Based on January List Price of Applicable Calendar Year	D017	3
Diagnostics	Clinical Diagnostic Kits and Reagents - Urinalysis Testing	Clinical Diagnostic Kits and Reagents - Urinalysis Testing - Medium Low Discount	15.1%	Based on January List Price of Applicable Calendar Year	D017	4
Diagnostics	Clinical Diagnostic Kits and Reagents - Urinalysis Testing	Clinical Diagnostic Kits and Reagents - Urinalysis Testing - Low Discount	9.9%	Based on January List Price of Applicable Calendar Year	D017	5
Diagnostics	Diagnostics - All Other	Diagnostics - All Other - High Discount	15.4%	Based on January List Price of Applicable Calendar Year	D001	1
Diagnostics	Diagnostics - All Other	Diagnostics - All Other - Medium High Discount	19.6%	Based on January List Price of Applicable Calendar Year	D001	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Diagnostics	Diagnostics - All Other	Diagnostics - All Other - Medium Discount	12.2%	Based on January List Price of Applicable Calendar Year	D001	3
Diagnostics	Diagnostics - All Other	Diagnostics - All Other - Medium Low Discount	12.5%	Based on January List Price of Applicable Calendar Year	D001	4
Diagnostics	Diagnostics - All Other	Diagnostics - All Other - Low Discount	18.6%	Based on January List Price of Applicable Calendar Year	D001	5
Diagnostics	Dialysis Desalting and Buffer Exchange	Dialysis Desalting and Buffer Exchange - Medium High Discount	12.3%	Based on January List Price of Applicable Calendar Year	D018	2
Diagnostics	Dialysis Desalting and Buffer Exchange	Dialysis Desalting and Buffer Exchange - Medium Low Discount	14.0%	Based on January List Price of Applicable Calendar Year	D018	4
Diagnostics	Dialysis Desalting and Buffer Exchange	Dialysis Desalting and Buffer Exchange - Low Discount	22.2%	Based on January List Price of Applicable Calendar Year	D018	5
Diagnostics	Electrophoresis Reagents	Electrophoresis Reagents - High Discount	18.5%	Based on January List Price of Applicable Calendar Year	D011	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Diagnostics	Electrophoresis Reagents	Electrophoresis Reagents - Medium High Discount	16.9%	Based on January List Price of Applicable Calendar Year	D011	2
Diagnostics	Electrophoresis Reagents	Electrophoresis Reagents - Medium Discount	15.4%	Based on January List Price of Applicable Calendar Year	D011	3
Diagnostics	Electrophoresis Reagents	Electrophoresis Reagents - Medium Low Discount	22.6%	Based on January List Price of Applicable Calendar Year	D011	4
Diagnostics	Electrophoresis Reagents	Electrophoresis Reagents - Low Discount	23.1%	Based on January List Price of Applicable Calendar Year	D011	5
Diagnostics	Hematology Stains	Hematology Stains - Medium High Discount	42.9%	Based on January List Price of Applicable Calendar Year	D020	2
Diagnostics	Hematology Stains	Hematology Stains - Medium Discount	26.9%	Based on January List Price of Applicable Calendar Year	D020	3
Diagnostics	Hematology Stains	Hematology Stains - Medium Low Discount	21.8%	Based on January List Price of Applicable Calendar Year	D020	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Diagnostics	Immunoassay Testing	Immunoassay Testing - High Discount	26.1%	Based on January List Price of Applicable Calendar Year	D014	1
Diagnostics	Immunoassay Testing	Immunoassay Testing - Medium High Discount	20.0%	Based on January List Price of Applicable Calendar Year	D014	2
Diagnostics	Immunoassay Testing	Immunoassay Testing - Medium Discount	21.6%	Based on January List Price of Applicable Calendar Year	D014	3
Diagnostics	Immunoassay Testing	Immunoassay Testing - Medium Low Discount	12.1%	Based on January List Price of Applicable Calendar Year	D014	4
Diagnostics	Immunoassay Testing	Immunoassay Testing - Low Discount	31.5%	Based on January List Price of Applicable Calendar Year	D014	5
Diagnostics	Immunoreagents	Immunoreagents - Medium High Discount	13.3%	Based on January List Price of Applicable Calendar Year	D021	2
Diagnostics	Immunoreagents	Immunoreagents - Medium Discount	9.8%	Based on January List Price of Applicable Calendar Year	D021	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Diagnostics	Immunoreagents	Immunoreagents - Medium Low Discount	23.8%	Based on January List Price of Applicable Calendar Year	D021	4
Diagnostics	Immunoreagents	Immunoreagents - Low Discount	23.2%	Based on January List Price of Applicable Calendar Year	D021	5
Diagnostics	Microbiology Products	Microbiology Products - High Discount	25.3%	Based on January List Price of Applicable Calendar Year	D019	1
Diagnostics	Microbiology Products	Microbiology Products - Medium High Discount	21.9%	Based on January List Price of Applicable Calendar Year	D019	2
Diagnostics	Microbiology Products	Microbiology Products - Medium Discount	22.4%	Based on January List Price of Applicable Calendar Year	D019	3
Diagnostics	Microbiology Products	Microbiology Products - Medium Low Discount	18.4%	Based on January List Price of Applicable Calendar Year	D019	4
Diagnostics	Microbiology Products	Microbiology Products - Low Discount	33.9%	Based on January List Price of Applicable Calendar Year	D019	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Diagnostics	Molecular Biology Reagents and Kits - DNA Extraction and Purification	Molecular Biology Reagents and Kits - DNA Extraction and Purification - Medium High Discount	20.0%	Based on January List Price of Applicable Calendar Year	D016	2
Diagnostics	Molecular Biology Reagents and Kits - DNA Extraction and Purification	Molecular Biology Reagents and Kits - DNA Extraction and Purification - Medium Discount	15.7%	Based on January List Price of Applicable Calendar Year	D016	3
Diagnostics	Molecular Biology Reagents and Kits - DNA Extraction and Purification	Molecular Biology Reagents and Kits - DNA Extraction and Purification - Medium Low Discount	14.8%	Based on January List Price of Applicable Calendar Year	D016	4
Diagnostics	Molecular Biology Reagents and Kits - DNA Extraction and Purification	Molecular Biology Reagents and Kits - DNA Extraction and Purification - Low Discount	26.5%	Based on January List Price of Applicable Calendar Year	D016	5
Diagnostics	Molecular Biology Reagents and Kits - Nucleic Acid Labeling and Detection	Molecular Biology Reagents and Kits - Nucleic Acid Labeling and Detection - Medium Low Discount	14.3%	Based on January List Price of Applicable Calendar Year	D015	4
Diagnostics	Molecular Biology Reagents and Kits - Nucleic Acid Labeling and Detection	Molecular Biology Reagents and Kits - Nucleic Acid Labeling and Detection - Low Discount	15.4%	Based on January List Price of Applicable Calendar Year	D015	5
Diagnostics	Molecular Biology Reagents and Kits -	Molecular Biology Reagents and Kits - Other - High	11.0%	Based on January List Price of	D006	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
	Other	Discount		Applicable Calendar Year		
Diagnostics	Molecular Biology Reagents and Kits - Other	Molecular Biology Reagents and Kits - Other - Medium High Discount	4.4%	Based on January List Price of Applicable Calendar Year	D006	2
Diagnostics	Molecular Biology Reagents and Kits - Other	Molecular Biology Reagents and Kits - Other - Medium Discount	11.0%	Based on January List Price of Applicable Calendar Year	D006	3
Diagnostics	Molecular Biology Reagents and Kits - Other	Molecular Biology Reagents and Kits - Other - Medium Low Discount	11.1%	Based on January List Price of Applicable Calendar Year	D006	4
Diagnostics	Molecular Biology Reagents and Kits - Other	Molecular Biology Reagents and Kits - Other - Low Discount	14.7%	Based on January List Price of Applicable Calendar Year	D006	5
Diagnostics	Protein Chemistry Reagents and Kits	Protein Chemistry Reagents and Kits - High Discount	10.7%	Based on January List Price of Applicable Calendar Year	D004	1
Diagnostics	Protein Chemistry Reagents and Kits	Protein Chemistry Reagents and Kits - Medium High Discount	13.3%	Based on January List Price of Applicable Calendar Year	D004	2
Diagnostics	Protein Chemistry Reagents and Kits	Protein Chemistry Reagents and Kits - Medium Discount	6.2%	Based on January List Price of Applicable	D004	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Diagnostics	Protein Chemistry Reagents and Kits	Protein Chemistry Reagents and Kits - Medium Low Discount	19.9%	Based on January List Price of Applicable Calendar Year	D004	4
Diagnostics	Protein Chemistry Reagents and Kits	Protein Chemistry Reagents and Kits - Low Discount	28.9%	Based on January List Price of Applicable Calendar Year	D004	5
Diagnostics	Tissue Processing Reagents	Tissue Processing Reagents - Medium High Discount	31.5%	Based on January List Price of Applicable Calendar Year	D012	2
Diagnostics	Tissue Processing Reagents	Tissue Processing Reagents - Medium Discount	16.6%	Based on January List Price of Applicable Calendar Year	D012	3
Diagnostics	Tissue Processing Reagents	Tissue Processing Reagents - Medium Low Discount	15.2%	Based on January List Price of Applicable Calendar Year	D012	4
Diagnostics	Tissue Processing Reagents	Tissue Processing Reagents - Low Discount	13.9%	Based on January List Price of Applicable Calendar Year	D012	5
Diagnostics	Western Blotting, ELISA and Cell Imaging	Western Blotting, ELISA and Cell Imaging - Medium	15.9%	Based on January List Price of Applicable	D009	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		High Discount		Calendar Year		
Diagnostics	Western Blotting, ELISA and Cell Imaging	Western Blotting, ELISA and Cell Imaging - Medium Discount	12.3%	Based on January List Price of Applicable Calendar Year	D009	3
Diagnostics	Western Blotting, ELISA and Cell Imaging	Western Blotting, ELISA and Cell Imaging - Medium Low Discount	23.8%	Based on January List Price of Applicable Calendar Year	D009	4
Diagnostics	Western Blotting, ELISA and Cell Imaging	Western Blotting, ELISA and Cell Imaging - Low Discount	19.7%	Based on January List Price of Applicable Calendar Year	D009	5
Equipment	Baths - Other	Baths - Other - High Discount	31.8%	Based on January List Price of Applicable Calendar Year	E013	1
Equipment	Baths - Other	Baths - Other - Medium High Discount	29.1%	Based on January List Price of Applicable Calendar Year	E013	2
Equipment	Baths - Other	Baths - Other - Medium Discount	24.2%	Based on January List Price of Applicable Calendar Year	E013	3
Equipment	Baths - Other	Baths - Other - Medium Low Discount	37.6%	Based on January List Price of Applicable	E013	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Baths - Water	Baths - Water - Medium Discount	36.3%	Based on January List Price of Applicable Calendar Year	E030	3
Equipment	Blenders and Homogenizers	Blenders and Homogenizers - High Discount	38.4%	Based on January List Price of Applicable Calendar Year	E024	1
Equipment	Blenders and Homogenizers	Blenders and Homogenizers - Medium High Discount	31.2%	Based on January List Price of Applicable Calendar Year	E024	2
Equipment	Blenders and Homogenizers	Blenders and Homogenizers - Medium Discount	25.4%	Based on January List Price of Applicable Calendar Year	E024	3
Equipment	Blenders and Homogenizers	Blenders and Homogenizers - Medium Low Discount	21.1%	Based on January List Price of Applicable Calendar Year	E024	4
Equipment	Blenders and Homogenizers	Blenders and Homogenizers - Low Discount	35.4%	Based on January List Price of Applicable Calendar Year	E024	5
Equipment	Centrifuges - Benchtop [General Purpose]	Centrifuges - Benchtop [General Purpose] - High	6.6%	Based on January List Price of Applicable	E007	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Discount		Calendar Year		
Equipment	Centrifuges - Benchtop [General Purpose]	Centrifuges - Benchtop [General Purpose] - Medium High Discount	28.8%	Based on January List Price of Applicable Calendar Year	E007	2
Equipment	Centrifuges - Benchtop [General Purpose]	Centrifuges - Benchtop [General Purpose] - Medium Discount	12.2%	Based on January List Price of Applicable Calendar Year	E007	3
Equipment	Centrifuges - Benchtop Microcentrifuges	Centrifuges - Benchtop Microcentrifuges - Medium High Discount	16.4%	Based on January List Price of Applicable Calendar Year	E012	2
Equipment	Centrifuges - Benchtop Microcentrifuges	Centrifuges - Benchtop Microcentrifuges - Medium Low Discount	18.9%	Based on January List Price of Applicable Calendar Year	E012	4
Equipment	Centrifuges - Benchtop Microcentrifuges	Centrifuges - Benchtop Microcentrifuges - Low Discount	34.1%	Based on January List Price of Applicable Calendar Year	E012	5
Equipment	Centrifuges - Benchtop Other	Centrifuges - Benchtop Other - High Discount	12.3%	Based on January List Price of Applicable Calendar Year	E014	1
Equipment	Centrifuges - Benchtop Other	Centrifuges - Benchtop Other - Medium High	11.7%	Based on January List Price of Applicable	E014	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Discount		Calendar Year		
Equipment	Centrifuges - Benchtop Other	Centrifuges - Benchtop Other - Medium Discount	14.4%	Based on January List Price of Applicable Calendar Year	E014	3
Equipment	Centrifuges - Benchtop Other	Centrifuges - Benchtop Other - Medium Low Discount	14.4%	Based on January List Price of Applicable Calendar Year	E014	4
Equipment	Centrifuges - Benchtop Other	Centrifuges - Benchtop Other - Low Discount	33.9%	Based on January List Price of Applicable Calendar Year	E014	5
Equipment	Centrifuges - Centrifuge Accessories	Centrifuges - Centrifuge Accessories - High Discount	32.4%	Based on January List Price of Applicable Calendar Year	E021	1
Equipment	Centrifuges - Centrifuge Accessories	Centrifuges - Centrifuge Accessories - Medium Discount	38.9%	Based on January List Price of Applicable Calendar Year	E021	3
Equipment	Centrifuges - Centrifuge Accessories	Centrifuges - Centrifuge Accessories - Medium Low Discount	17.3%	Based on January List Price of Applicable Calendar Year	E021	4
Equipment	Centrifuges - Centrifuge Accessories	Centrifuges - Centrifuge Accessories - Low	26.7%	Based on January List Price of Applicable	E021	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
		Discount		Calendar Year		
Equipment	Chromatography Equipment	Chromatography Equipment - Medium High Discount	32.8%	Based on January List Price of Applicable Calendar Year	E042	2
Equipment	Counting Devices	Counting Devices - High Discount	20.0%	Based on January List Price of Applicable Calendar Year	E029	1
Equipment	Counting Devices	Counting Devices - Medium High Discount	25.4%	Based on January List Price of Applicable Calendar Year	E029	2
Equipment	Counting Devices	Counting Devices - Medium Discount	7.5%	Based on January List Price of Applicable Calendar Year	E029	3
Equipment	Counting Devices	Counting Devices - Medium Low Discount	24.6%	Based on January List Price of Applicable Calendar Year	E029	4
Equipment	Counting Devices	Counting Devices - Low Discount	24.7%	Based on January List Price of Applicable Calendar Year	E029	5
Equipment	Electrophoresis Equipment	Electrophoresis Equipment - High Discount	27.0%	Based on January List Price of Applicable	E026	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Electrophoresis Equipment	Electrophoresis Equipment - Medium High Discount	18.6%	Based on January List Price of Applicable Calendar Year	E026	2
Equipment	Electrophoresis Equipment	Electrophoresis Equipment - Medium Discount	11.0%	Based on January List Price of Applicable Calendar Year	E026	3
Equipment	Electrophoresis Equipment	Electrophoresis Equipment - Medium Low Discount	25.0%	Based on January List Price of Applicable Calendar Year	E026	4
Equipment	Electrophoresis Equipment	Electrophoresis Equipment - Low Discount	51.9%	Based on January List Price of Applicable Calendar Year	E026	5
Equipment	Equipment - All Other	Equipment - All Other - High Discount	25.6%	Based on January List Price of Applicable Calendar Year	E001	1
Equipment	Equipment - All Other	Equipment - All Other - Medium High Discount	13.1%	Based on January List Price of Applicable Calendar Year	E001	2
Equipment	Equipment - All Other	Equipment - All Other - Medium Discount	13.8%	Based on January List Price of Applicable	E001	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Equipment - All Other	Equipment - All Other - Medium Low Discount	25.8%	Based on January List Price of Applicable Calendar Year	E001	4
Equipment	Equipment - All Other	Equipment - All Other - Low Discount	28.7%	Based on January List Price of Applicable Calendar Year	E001	5
Equipment	Equipment - Education	Equipment - Education - High Discount	19.2%	Based on January List Price of Applicable Calendar Year	E900	1
Equipment	Equipment - Education	Equipment - Education - Medium High Discount	25.8%	Based on January List Price of Applicable Calendar Year	E900	2
Equipment	Equipment - Education	Equipment - Education - Medium Discount	16.7%	Based on January List Price of Applicable Calendar Year	E900	3
Equipment	Equipment - Education	Equipment - Education - Medium Low Discount	26.4%	Based on January List Price of Applicable Calendar Year	E900	4
Equipment	Equipment - Education	Equipment - Education - Low Discount	39.6%	Based on January List Price of Applicable	E900	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Evaporators	Evaporators - Medium Discount	14.5%	Based on January List Price of Applicable Calendar Year	E028	3
Equipment	Evaporators	Evaporators - Medium Low Discount	17.3%	Based on January List Price of Applicable Calendar Year	E028	4
Equipment	Evaporators	Evaporators - Low Discount	33.3%	Based on January List Price of Applicable Calendar Year	E028	5
Equipment	Freeze Drying Equipment	Freeze Drying Equipment - Medium Low Discount	27.9%	Based on January List Price of Applicable Calendar Year	E038	4
Equipment	Freeze Drying Equipment	Freeze Drying Equipment - Low Discount	35.1%	Based on January List Price of Applicable Calendar Year	E038	5
Equipment	Furnaces	Furnaces - High Discount	22.4%	Based on January List Price of Applicable Calendar Year	E032	1
Equipment	Furnaces	Furnaces - Medium High Discount	40.0%	Based on January List Price of Applicable	E032	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Furnaces	Furnaces - Medium Discount	30.0%	Based on January List Price of Applicable Calendar Year	E032	3
Equipment	Furnaces	Furnaces - Medium Low Discount	41.4%	Based on January List Price of Applicable Calendar Year	E032	4
Equipment	Furnaces	Furnaces - Low Discount	40.2%	Based on January List Price of Applicable Calendar Year	E032	5
Equipment	Heaters	Heaters - High Discount	41.6%	Based on January List Price of Applicable Calendar Year	E040	1
Equipment	Heaters	Heaters - Medium High Discount	37.7%	Based on January List Price of Applicable Calendar Year	E040	2
Equipment	Heaters	Heaters - Medium Discount	17.2%	Based on January List Price of Applicable Calendar Year	E040	3
Equipment	Heaters	Heaters - Medium Low Discount	28.4%	Based on January List Price of Applicable	E040	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Heaters	Heaters - Low Discount	25.1%	Based on January List Price of Applicable Calendar Year	E040	5
Equipment	Hoods and Enclosures	Hoods and Enclosures - High Discount	21.7%	Based on January List Price of Applicable Calendar Year	E011	1
Equipment	Hoods and Enclosures	Hoods and Enclosures - Medium High Discount	24.9%	Based on January List Price of Applicable Calendar Year	E011	2
Equipment	Hoods and Enclosures	Hoods and Enclosures - Medium Discount	20.4%	Based on January List Price of Applicable Calendar Year	E011	3
Equipment	Hoods and Enclosures	Hoods and Enclosures - Medium Low Discount	38.4%	Based on January List Price of Applicable Calendar Year	E011	4
Equipment	Hoods and Enclosures	Hoods and Enclosures - Low Discount	36.0%	Based on January List Price of Applicable Calendar Year	E011	5
Equipment	Hotplates	Hotplates - Medium High Discount	32.3%	Based on January List Price of Applicable	E017	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Hotplates	Hotplates - Medium Discount	32.4%	Based on January List Price of Applicable Calendar Year	E017	3
Equipment	Hotplates	Hotplates - Medium Low Discount	25.1%	Based on January List Price of Applicable Calendar Year	E017	4
Equipment	Hotplates	Hotplates - Low Discount	45.2%	Based on January List Price of Applicable Calendar Year	E017	5
Equipment	Incubators	Incubators - High Discount	24.0%	Based on January List Price of Applicable Calendar Year	E003	1
Equipment	Incubators	Incubators - Medium High Discount	27.0%	Based on January List Price of Applicable Calendar Year	E003	2
Equipment	Incubators	Incubators - Medium Discount	18.6%	Based on January List Price of Applicable Calendar Year	E003	3
Equipment	Incubators	Incubators - Medium Low Discount	13.3%	Based on January List Price of Applicable	E003	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Incubators	Incubators - Low Discount	13.3%	Based on January List Price of Applicable Calendar Year	E003	5
Equipment	Microplate Washers	Microplate Washers - Low Discount	20.3%	Based on January List Price of Applicable Calendar Year	E039	5
Equipment	Microscopes	Microscopes - High Discount	32.9%	Based on January List Price of Applicable Calendar Year	E006	1
Equipment	Microscopes	Microscopes - Medium High Discount	43.6%	Based on January List Price of Applicable Calendar Year	E006	2
Equipment	Microscopes	Microscopes - Medium Discount	26.1%	Based on January List Price of Applicable Calendar Year	E006	3
Equipment	Microscopes	Microscopes - Medium Low Discount	26.0%	Based on January List Price of Applicable Calendar Year	E006	4
Equipment	Microscopes	Microscopes - Low Discount	38.0%	Based on January List Price of Applicable	E006	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Microtomy Equipment	Microtomy Equipment - High Discount	13.7%	Based on January List Price of Applicable Calendar Year	E009	1
Equipment	Microtomy Equipment	Microtomy Equipment - Medium High Discount	26.2%	Based on January List Price of Applicable Calendar Year	E009	2
Equipment	Microtomy Equipment	Microtomy Equipment - Medium Discount	19.3%	Based on January List Price of Applicable Calendar Year	E009	3
Equipment	Microtomy Equipment	Microtomy Equipment - Medium Low Discount	28.2%	Based on January List Price of Applicable Calendar Year	E009	4
Equipment	Mills	Mills - Medium Discount	21.6%	Based on January List Price of Applicable Calendar Year	E033	3
Equipment	Mills	Mills - Medium Low Discount	34.6%	Based on January List Price of Applicable Calendar Year	E033	4
Equipment	Ovens	Ovens - High Discount	41.9%	Based on January List Price of Applicable	E019	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Ovens	Ovens - Medium High Discount	25.4%	Based on January List Price of Applicable Calendar Year	E019	2
Equipment	Ovens	Ovens - Medium Discount	17.6%	Based on January List Price of Applicable Calendar Year	E019	3
Equipment	Ovens	Ovens - Medium Low Discount	23.2%	Based on January List Price of Applicable Calendar Year	E019	4
Equipment	Ovens	Ovens - Low Discount	23.8%	Based on January List Price of Applicable Calendar Year	E019	5
Equipment	Photodocumentation Systems	Photodocumentation Systems - High Discount	11.8%	Based on January List Price of Applicable Calendar Year	E041	1
Equipment	Photodocumentation Systems	Photodocumentation Systems - Medium Discount	16.2%	Based on January List Price of Applicable Calendar Year	E041	3
Equipment	Photodocumentation Systems	Photodocumentation Systems - Medium Low Discount	34.5%	Based on January List Price of Applicable	E041	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Photodocumentation Systems	Photodocumentation Systems - Low Discount	48.0%	Based on January List Price of Applicable Calendar Year	E041	5
Equipment	Pipet Fillers	Pipet Fillers - High Discount	47.3%	Based on January List Price of Applicable Calendar Year	E022	1
Equipment	Pipet Fillers	Pipet Fillers - Medium High Discount	39.7%	Based on January List Price of Applicable Calendar Year	E022	2
Equipment	Pipet Fillers	Pipet Fillers - Medium Discount	32.3%	Based on January List Price of Applicable Calendar Year	E022	3
Equipment	Pipet Fillers	Pipet Fillers - Medium Low Discount	29.0%	Based on January List Price of Applicable Calendar Year	E022	4
Equipment	Pipet Fillers	Pipet Fillers - Low Discount	37.8%	Based on January List Price of Applicable Calendar Year	E022	5
Equipment	Pipetters - Manual Pipetters	Pipetters - Manual Pipetters - High Discount	41.9%	Based on January List Price of Applicable	E005	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Pipetters - Manual Pipetters	Pipetters - Manual Pipetters - Medium High Discount	15.9%	Based on January List Price of Applicable Calendar Year	E005	2
Equipment	Pipetters - Manual Pipetters	Pipetters - Manual Pipetters - Medium Discount	13.7%	Based on January List Price of Applicable Calendar Year	E005	3
Equipment	Pipetters - Manual Pipetters	Pipetters - Manual Pipetters - Medium Low Discount	23.6%	Based on January List Price of Applicable Calendar Year	E005	4
Equipment	Pipetters - Manual Pipetters	Pipetters - Manual Pipetters - Low Discount	38.4%	Based on January List Price of Applicable Calendar Year	E005	5
Equipment	Pipetters - Other	Pipetters - Other - High Discount	27.8%	Based on January List Price of Applicable Calendar Year	E015	1
Equipment	Pipetters - Other	Pipetters - Other - Medium High Discount	11.3%	Based on January List Price of Applicable Calendar Year	E015	2
Equipment	Pipetters - Other	Pipetters - Other - Medium Discount	8.6%	Based on January List Price of Applicable	E015	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Pipetters - Other	Pipetters - Other - Medium Low Discount	20.1%	Based on January List Price of Applicable Calendar Year	E015	4
Equipment	Pipetters - Other	Pipetters - Other - Low Discount	19.8%	Based on January List Price of Applicable Calendar Year	E015	5
Equipment	PPE – Respiratory Protection (Safety)	PPE – Respiratory Protection (Safety) - High Discount	29.2%	Based on January List Price of Applicable Calendar Year	E008	1
Equipment	PPE – Respiratory Protection (Safety)	PPE – Respiratory Protection (Safety) - Medium High Discount	31.8%	Based on January List Price of Applicable Calendar Year	E008	2
Equipment	PPE – Respiratory Protection (Safety)	PPE – Respiratory Protection (Safety) - Medium Discount	30.2%	Based on January List Price of Applicable Calendar Year	E008	3
Equipment	PPE – Respiratory Protection (Safety)	PPE – Respiratory Protection (Safety) - Medium Low Discount	31.4%	Based on January List Price of Applicable Calendar Year	E008	4
Equipment	PPE – Respiratory Protection (Safety)	PPE – Respiratory Protection (Safety) - Low Discount	33.5%	Based on January List Price of Applicable	E008	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Pumps - Other	Pumps - Other - High Discount	34.2%	Based on January List Price of Applicable Calendar Year	E025	1
Equipment	Pumps - Other	Pumps - Other - Medium High Discount	35.1%	Based on January List Price of Applicable Calendar Year	E025	2
Equipment	Pumps - Other	Pumps - Other - Medium Discount	23.5%	Based on January List Price of Applicable Calendar Year	E025	3
Equipment	Pumps - Other	Pumps - Other - Medium Low Discount	39.7%	Based on January List Price of Applicable Calendar Year	E025	4
Equipment	Pumps - Other	Pumps - Other - Low Discount	40.1%	Based on January List Price of Applicable Calendar Year	E025	5
Equipment	Pumps - Tubing	Pumps - Tubing - High Discount	41.6%	Based on January List Price of Applicable Calendar Year	E035	1
Equipment	Pumps - Tubing	Pumps - Tubing - Medium High Discount	38.4%	Based on January List Price of Applicable	E035	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Pumps - Tubing	Pumps - Tubing - Medium Discount	32.0%	Based on January List Price of Applicable Calendar Year	E035	3
Equipment	Pumps - Tubing	Pumps - Tubing - Medium Low Discount	30.5%	Based on January List Price of Applicable Calendar Year	E035	4
Equipment	Pumps - Vacuum	Pumps - Vacuum - High Discount	30.6%	Based on January List Price of Applicable Calendar Year	E016	1
Equipment	Pumps - Vacuum	Pumps - Vacuum - Medium High Discount	31.1%	Based on January List Price of Applicable Calendar Year	E016	2
Equipment	Pumps - Vacuum	Pumps - Vacuum - Medium Discount	25.7%	Based on January List Price of Applicable Calendar Year	E016	3
Equipment	Pumps - Vacuum	Pumps - Vacuum - Medium Low Discount	31.5%	Based on January List Price of Applicable Calendar Year	E016	4
Equipment	Pumps - Vacuum	Pumps - Vacuum - Low Discount	40.8%	Based on January List Price of Applicable	E016	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Equipment	Refrigerators and Freezers - Other	Refrigerators and Freezers - Other - High Discount	29.0%	Based on January List Price of Applicable Calendar Year	E002	1
Equipment	Refrigerators and Freezers - Other	Refrigerators and Freezers - Other - Medium High Discount	25.8%	Based on January List Price of Applicable Calendar Year	E002	2
Equipment	Refrigerators and Freezers - Other	Refrigerators and Freezers - Other - Medium Discount	25.0%	Based on January List Price of Applicable Calendar Year	E002	3
Equipment	Refrigerators and Freezers - Other	Refrigerators and Freezers - Other - Medium Low Discount	28.7%	Based on January List Price of Applicable Calendar Year	E002	4
Equipment	Refrigerators and Freezers - Other	Refrigerators and Freezers - Other - Low Discount	29.0%	Based on January List Price of Applicable Calendar Year	E002	5
Equipment	Refrigerators and Freezers - Ultra Low Temperature Freezers [Upright]	Refrigerators and Freezers - Ultra Low Temperature Freezers [Upright] - Medium Discount	38.5%	Based on January List Price of Applicable Calendar Year	E004	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Equipment	Refrigerators and Freezers - Ultra Low Temperature Freezers [Upright]	Refrigerators and Freezers - Ultra Low Temperature Freezers [Upright] - Medium Low Discount	32.9%	Based on January List Price of Applicable Calendar Year	E004	4
Equipment	Shakers and Mixers - Other	Shakers and Mixers - Other - High Discount	32.4%	Based on January List Price of Applicable Calendar Year	E020	1
Equipment	Shakers and Mixers - Other	Shakers and Mixers - Other - Medium High Discount	50.2%	Based on January List Price of Applicable Calendar Year	E020	2
Equipment	Shakers and Mixers - Other	Shakers and Mixers - Other - Medium Discount	20.1%	Based on January List Price of Applicable Calendar Year	E020	3
Equipment	Shakers and Mixers - Other	Shakers and Mixers - Other - Medium Low Discount	28.3%	Based on January List Price of Applicable Calendar Year	E020	4
Equipment	Shakers and Mixers - Other	Shakers and Mixers - Other - Low Discount	63.2%	Based on January List Price of Applicable Calendar Year	E020	5
Equipment	Shakers and Mixers - Platform Shakers	Shakers and Mixers - Platform Shakers - High Discount	31.9%	Based on January List Price of Applicable Calendar Year	E018	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Equipment	Shakers and Mixers - Platform Shakers	Shakers and Mixers - Platform Shakers - Medium High Discount	27.8%	Based on January List Price of Applicable Calendar Year	E018	2
Equipment	Shakers and Mixers - Platform Shakers	Shakers and Mixers - Platform Shakers - Medium Discount	16.5%	Based on January List Price of Applicable Calendar Year	E018	3
Equipment	Shakers and Mixers - Platform Shakers	Shakers and Mixers - Platform Shakers - Medium Low Discount	30.7%	Based on January List Price of Applicable Calendar Year	E018	4
Equipment	Shakers and Mixers - Platform Shakers	Shakers and Mixers - Platform Shakers - Low Discount	32.6%	Based on January List Price of Applicable Calendar Year	E018	5
Equipment	Sterilizers	Sterilizers - High Discount	24.5%	Based on January List Price of Applicable Calendar Year	E023	1
Equipment	Sterilizers	Sterilizers - Medium High Discount	20.0%	Based on January List Price of Applicable Calendar Year	E023	2
Equipment	Sterilizers	Sterilizers - Medium Discount	26.7%	Based on January List Price of Applicable Calendar Year	E023	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Equipment	Sterilizers	Sterilizers - Medium Low Discount	38.0%	Based on January List Price of Applicable Calendar Year	E023	4
Equipment	Sterilizers	Sterilizers - Low Discount	41.2%	Based on January List Price of Applicable Calendar Year	E023	5
Equipment	Stirrers - Magnetic	Stirrers - Magnetic - Medium High Discount	35.6%	Based on January List Price of Applicable Calendar Year	E031	2
Equipment	Stirrers - Magnetic	Stirrers - Magnetic - Medium Discount	24.2%	Based on January List Price of Applicable Calendar Year	E031	3
Equipment	Stirrers - Magnetic	Stirrers - Magnetic - Medium Low Discount	33.2%	Based on January List Price of Applicable Calendar Year	E031	4
Equipment	Stirrers - Magnetic	Stirrers - Magnetic - Low Discount	22.8%	Based on January List Price of Applicable Calendar Year	E031	5
Equipment	Stirrers - Overhead	Stirrers - Overhead - Medium Discount	33.3%	Based on January List Price of Applicable Calendar Year	E036	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Equipment	Stirrers - Overhead	Stirrers - Overhead - Medium Low Discount	47.8%	Based on January List Price of Applicable Calendar Year	E036	4
Equipment	Ultrasonic Cleaners	Ultrasonic Cleaners - High Discount	40.4%	Based on January List Price of Applicable Calendar Year	E037	1
Equipment	Ultrasonic Cleaners	Ultrasonic Cleaners - Medium High Discount	33.5%	Based on January List Price of Applicable Calendar Year	E037	2
Equipment	Ultrasonic Cleaners	Ultrasonic Cleaners - Medium Discount	18.3%	Based on January List Price of Applicable Calendar Year	E037	3
Equipment	Ultrasonic Cleaners	Ultrasonic Cleaners - Medium Low Discount	25.6%	Based on January List Price of Applicable Calendar Year	E037	4
Equipment	Ultrasonic Cleaners	Ultrasonic Cleaners - Low Discount	36.7%	Based on January List Price of Applicable Calendar Year	E037	5
Equipment	Washers and Dryers for Glassware	Washers and Dryers for Glassware - Medium High Discount	25.3%	Based on January List Price of Applicable Calendar Year	E034	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Equipment	Washers and Dryers for Glassware	Washers and Dryers for Glassware - Medium Discount	30.4%	Based on January List Price of Applicable Calendar Year	E034	3
Equipment	Washers and Dryers for Glassware	Washers and Dryers for Glassware - Medium Low Discount	27.8%	Based on January List Price of Applicable Calendar Year	E034	4
Equipment	Washers and Dryers for Glassware	Washers and Dryers for Glassware - Low Discount	38.1%	Based on January List Price of Applicable Calendar Year	E034	5
Equipment	Water Purification - Other	Water Purification - Other - High Discount	28.7%	Based on January List Price of Applicable Calendar Year	E010	1
Equipment	Water Purification - Other	Water Purification - Other - Medium High Discount	20.8%	Based on January List Price of Applicable Calendar Year	E010	2
Equipment	Water Purification - Other	Water Purification - Other - Medium Discount	10.4%	Based on January List Price of Applicable Calendar Year	E010	3
Equipment	Water Purification - Other	Water Purification - Other - Medium Low Discount	16.8%	Based on January List Price of Applicable Calendar Year	E010	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Equipment	Water Purification - Other	Water Purification - Other - Low Discount	35.7%	Based on January List Price of Applicable Calendar Year	E010	5
Equipment	Water Purification - Pretreatment and Polishing Systems	Water Purification - Pretreatment and Polishing Systems - High Discount	18.7%	Based on January List Price of Applicable Calendar Year	E027	1
Equipment	Water Purification - Pretreatment and Polishing Systems	Water Purification - Pretreatment and Polishing Systems - Medium High Discount	9.1%	Based on January List Price of Applicable Calendar Year	E027	2
Equipment	Water Purification - Pretreatment and Polishing Systems	Water Purification - Pretreatment and Polishing Systems - Medium Discount	7.5%	Based on January List Price of Applicable Calendar Year	E027	3
Equipment	Water Purification - Pretreatment and Polishing Systems	Water Purification - Pretreatment and Polishing Systems - Medium Low Discount	19.2%	Based on January List Price of Applicable Calendar Year	E027	4
Equipment	Water Purification - Pretreatment and Polishing Systems	Water Purification - Pretreatment and Polishing Systems - Low Discount	39.9%	Based on January List Price of Applicable Calendar Year	E027	5
Furniture	Furniture	Furniture - High Discount	36.7%	Based on January List Price of Applicable Calendar Year	F001	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Furniture	Furniture	Furniture - Medium High Discount	37.4%	Based on January List Price of Applicable Calendar Year	F001	2
Furniture	Furniture	Furniture - Medium Discount	42.3%	Based on January List Price of Applicable Calendar Year	F001	3
Furniture	Furniture	Furniture - Medium Low Discount	25.2%	Based on January List Price of Applicable Calendar Year	F001	4
Furniture	Furniture	Furniture - Low Discount	3.6%	Based on January List Price of Applicable Calendar Year	F001	5
Furniture	Furniture - Education	Furniture - Education - High Discount	42.8%	Based on January List Price of Applicable Calendar Year	F900	1
Furniture	Furniture - Education	Furniture - Education - Medium Discount	29.5%	Based on January List Price of Applicable Calendar Year	F900	3
Furniture	Furniture - Education	Furniture - Education - Medium Low Discount	25.8%	Based on January List Price of Applicable Calendar Year	F900	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Furniture	Furniture - Education	Furniture - Education - Low Discount	40.8%	Based on January List Price of Applicable Calendar Year	F900	5
Instruments	Anemometers and Flowmeters	Anemometers and Flowmeters - Medium High Discount	43.8%	Based on January List Price of Applicable Calendar Year	I016	2
Instruments	Anemometers and Flowmeters	Anemometers and Flowmeters - Medium Discount	26.7%	Based on January List Price of Applicable Calendar Year	I016	3
Instruments	Anemometers and Flowmeters	Anemometers and Flowmeters - Medium Low Discount	31.8%	Based on January List Price of Applicable Calendar Year	I016	4
Instruments	Balances - Analytical Balances	Balances - Analytical Balances - Medium High Discount	24.7%	Based on January List Price of Applicable Calendar Year	I007	2
Instruments	Balances - Analytical Balances	Balances - Analytical Balances - Medium Discount	23.3%	Based on January List Price of Applicable Calendar Year	I007	3
Instruments	Balances - Analytical Balances	Balances - Analytical Balances - Medium Low Discount	24.0%	Based on January List Price of Applicable Calendar Year	I007	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Instruments	Balances - Analytical Balances	Balances - Analytical Balances - Low Discount	42.8%	Based on January List Price of Applicable Calendar Year	I007	5
Instruments	Balances - Other	Balances - Other - High Discount	25.0%	Based on January List Price of Applicable Calendar Year	I003	1
Instruments	Balances - Other	Balances - Other - Medium High Discount	21.3%	Based on January List Price of Applicable Calendar Year	I003	2
Instruments	Balances - Other	Balances - Other - Medium Discount	20.6%	Based on January List Price of Applicable Calendar Year	I003	3
Instruments	Balances - Other	Balances - Other - Medium Low Discount	25.2%	Based on January List Price of Applicable Calendar Year	I003	4
Instruments	Clinical Chemistry Analyzers	Clinical Chemistry Analyzers - Medium Discount	26.8%	Based on January List Price of Applicable Calendar Year	I005	3
Instruments	Clinical Chemistry Analyzers	Clinical Chemistry Analyzers - Medium Low Discount	33.0%	Based on January List Price of Applicable Calendar Year	I005	4

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Instruments	Coagulation Analyzers	Coagulation Analyzers - Low Discount	33.0%	Based on January List Price of Applicable Calendar Year	I006	5
Instruments	Electrochemistry	Electrochemistry - High Discount	32.7%	Based on January List Price of Applicable Calendar Year	I004	1
Instruments	Electrochemistry	Electrochemistry - Medium High Discount	25.0%	Based on January List Price of Applicable Calendar Year	I004	2
Instruments	Electrochemistry	Electrochemistry - Medium Discount	16.6%	Based on January List Price of Applicable Calendar Year	I004	3
Instruments	Electrochemistry	Electrochemistry - Medium Low Discount	37.8%	Based on January List Price of Applicable Calendar Year	I004	4
Instruments	Electrochemistry	Electrochemistry - Low Discount	55.5%	Based on January List Price of Applicable Calendar Year	I004	5
Instruments	Electrodes	Electrodes - High Discount	36.6%	Based on January List Price of Applicable Calendar Year	I012	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Instruments	Electrodes	Electrodes - Medium High Discount	32.2%	Based on January List Price of Applicable Calendar Year	I012	2
Instruments	Electrodes	Electrodes - Medium Discount	31.0%	Based on January List Price of Applicable Calendar Year	I012	3
Instruments	Electrodes	Electrodes - Medium Low Discount	19.7%	Based on January List Price of Applicable Calendar Year	I012	4
Instruments	Electrodes	Electrodes - Low Discount	32.7%	Based on January List Price of Applicable Calendar Year	I012	5
Instruments	Instrumentation – Radiation, Chemical, Noise, Heat-Stress & Air Quality Monitoring (Safety)	Instrumentation – Radiation, Chemical, Noise, Heat-Stress & Air Quality Monitoring (Safety) - High Discount	13.3%	Based on January List Price of Applicable Calendar Year	I010	1
Instruments	Instrumentation – Radiation, Chemical, Noise, Heat-Stress & Air Quality Monitoring (Safety)	Instrumentation – Radiation, Chemical, Noise, Heat-Stress & Air Quality Monitoring (Safety) - Medium High Discount	4.5%	Based on January List Price of Applicable Calendar Year	I010	2

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
Instruments	Instrumentation – Radiation, Chemical, Noise, Heat-Stress & Air Quality Monitoring (Safety)	Instrumentation – Radiation, Chemical, Noise, Heat-Stress & Air Quality Monitoring (Safety) - Medium Discount	9.2%	Based on January List Price of Applicable Calendar Year	I010	3
Instruments	Instrumentation – Radiation, Chemical, Noise, Heat-Stress & Air Quality Monitoring (Safety)	Instrumentation – Radiation, Chemical, Noise, Heat-Stress & Air Quality Monitoring (Safety) - Low Discount	46.6%	Based on January List Price of Applicable Calendar Year	I010	5
Instruments	Instruments - All Other	Instruments - All Other - High Discount	29.0%	Based on January List Price of Applicable Calendar Year	I001	1
Instruments	Instruments - All Other	Instruments - All Other - Medium High Discount	11.2%	Based on January List Price of Applicable Calendar Year	I001	2
Instruments	Instruments - All Other	Instruments - All Other - Medium Discount	17.0%	Based on January List Price of Applicable Calendar Year	I001	3
Instruments	Instruments - All Other	Instruments - All Other - Medium Low Discount	36.8%	Based on January List Price of Applicable Calendar Year	I001	4
Instruments	Instruments - All Other	Instruments - All Other - Low Discount	30.4%	Based on January List Price of Applicable	I001	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Instruments	Instruments - Education	Instruments - Education - High Discount	33.7%	Based on January List Price of Applicable Calendar Year	I900	1
Instruments	Instruments - Education	Instruments - Education - Medium High Discount	31.6%	Based on January List Price of Applicable Calendar Year	I900	2
Instruments	Instruments - Education	Instruments - Education - Medium Discount	40.2%	Based on January List Price of Applicable Calendar Year	I900	3
Instruments	Instruments - Education	Instruments - Education - Medium Low Discount	15.9%	Based on January List Price of Applicable Calendar Year	I900	4
Instruments	Instruments - Education	Instruments - Education - Low Discount	10.2%	Based on January List Price of Applicable Calendar Year	I900	5
Instruments	Microplate Readers	Microplate Readers - High Discount	16.3%	Based on January List Price of Applicable Calendar Year	I011	1
Instruments	Microplate Readers	Microplate Readers - Medium Discount	12.4%	Based on January List Price of Applicable	I011	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Instruments	Microplate Readers	Microplate Readers - Medium Low Discount	30.3%	Based on January List Price of Applicable Calendar Year	I011	4
Instruments	Microplate Readers	Microplate Readers - Low Discount	44.4%	Based on January List Price of Applicable Calendar Year	I011	5
Instruments	PH ORP Titration	PH ORP Titration - High Discount	36.2%	Based on January List Price of Applicable Calendar Year	I009	1
Instruments	PH ORP Titration	PH ORP Titration - Medium High Discount	33.0%	Based on January List Price of Applicable Calendar Year	I009	2
Instruments	PH ORP Titration	PH ORP Titration - Medium Discount	24.0%	Based on January List Price of Applicable Calendar Year	I009	3
Instruments	PH ORP Titration	PH ORP Titration - Medium Low Discount	17.4%	Based on January List Price of Applicable Calendar Year	I009	4
Instruments	PH ORP Titration	PH ORP Titration - Low Discount	34.6%	Based on January List Price of Applicable	I009	5

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Instruments	Spectrometry and Spectrophotometry	Spectrometry and Spectrophotometry - High Discount	21.9%	Based on January List Price of Applicable Calendar Year	I002	1
Instruments	Spectrometry and Spectrophotometry	Spectrometry and Spectrophotometry - Medium High Discount	12.9%	Based on January List Price of Applicable Calendar Year	I002	2
Instruments	Spectrometry and Spectrophotometry	Spectrometry and Spectrophotometry - Medium Discount	10.3%	Based on January List Price of Applicable Calendar Year	I002	3
Instruments	Spectrometry and Spectrophotometry	Spectrometry and Spectrophotometry - Medium Low Discount	16.2%	Based on January List Price of Applicable Calendar Year	I002	4
Instruments	Spectrometry and Spectrophotometry	Spectrometry and Spectrophotometry - Low Discount	16.2%	Based on January List Price of Applicable Calendar Year	I002	5
Instruments	Thermal Cycling Instruments	Thermal Cycling Instruments - Medium Low Discount	25.0%	Based on January List Price of Applicable Calendar Year	I013	4
Instruments	Thermometers	Thermometers - High Discount	38.4%	Based on January List Price of Applicable	I008	1

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Instruments	Thermometers	Thermometers - Medium High Discount	44.5%	Based on January List Price of Applicable Calendar Year	I008	2
Instruments	Thermometers	Thermometers - Medium Discount	39.2%	Based on January List Price of Applicable Calendar Year	I008	3
Instruments	Thermometers	Thermometers - Medium Low Discount	39.4%	Based on January List Price of Applicable Calendar Year	I008	4
Instruments	Thermometers	Thermometers - Low Discount	44.3%	Based on January List Price of Applicable Calendar Year	I008	5
Instruments	Timers	Timers - High Discount	38.9%	Based on January List Price of Applicable Calendar Year	I014	1
Instruments	Timers	Timers - Medium High Discount	39.6%	Based on January List Price of Applicable Calendar Year	I014	2
Instruments	Timers	Timers - Medium Discount	39.0%	Based on January List Price of Applicable	I014	3

Category	Product Pricing Group	Market Discount Band	Discount	Discount Base	PPG Codes	Band
				Calendar Year		
Instruments	Timers	Timers - Medium Low Discount	37.4%	Based on January List Price of Applicable Calendar Year	I014	4
Instruments	Timers	Timers - Low Discount	52.4%	Based on January List Price of Applicable Calendar Year	I014	5
Instruments	Viscometry Instruments	Viscometry Instruments - Medium Discount	16.6%	Based on January List Price of Applicable Calendar Year	I015	3
Instruments	Viscometry Instruments	Viscometry Instruments - Low Discount	16.1%	Based on January List Price of Applicable Calendar Year	I015	5
Note: When the calculated price for a catalog product falls below Thermo Fisher Scientific's cost plus 7%, the price charged will be cost plus 7%.						

Exhibit C
Prime Award PPG Schedule

PPG Code	Description	Std Discount	Alt Discount
A001	Apparatus - All Other Examples include Weights, Magnets and Magnifiers, Metal Tanks, Mixers (In-Line), Molecular and Chemical Models, Needles (Dissection), Patient Care Simulators, Pipetter Calibration Kits, Power Saws, Scissors, Sieves, Animal Cages and Cage Accessories, Aquaria and Accessories, and Defibrillator Accessories.	31.1%	31.1%
A002	Microbiology Apparatus	32.5%	32.5%
A003	Racks	37.1%	37.1%
A004	Facility Safety - Maintenance & Operations - Apparatus	35.4%	35.4%
A005	Clamps, Trays, and Supports	41.6%	41.6%
A006	Cryogenic Products	31.2%	31.2%
A007	Desiccators	33.7%	33.7%
A008	Fire Fighting & Emergency Response – Equipment & Medical	17.1%	17.1%
A009	Liquid Handling Fillers and Dispensers	21.8%	21.8%
A010	PPE – Fall Protection	26.7%	26.7%
B001	Biologicals - All Other Examples include: Serum Substitutes, Animal Sera, Storage Accessories for Preserved Specimens, Live Cell Cultures, Overexpression Lysates, and Peptides.	9.6%	9.6%
B002	Prepared Microbiology Media [Plates]	22.4%	22.4%
B003	Antibodies	7.7%	7.7%
B004	Cell Culture Media and Reagents	26.1%	26.1%
B005	Blood Culture Systems	31.3%	31.3%
B006	PCR Supplies	8.6%	8.6%
B007	Dehydrated Microbiology Media	22.8%	22.8%
B008	Bovine Sera	24.2%	24.2%
B009	Microbiology Supplies	20.2%	20.2%
B010	Prepared Microbiology Media [Tubes]	13.9%	13.9%
B011	Microbiology Quality Control Supplies	16.5%	16.5%
B012	Enzymes	9.4%	9.4%
B013	Prepared Microbiology Media [Bottles and Slides]	3.0%	3.0%
B014	Nucleic Acids and Components	11.4%	11.4%
B015	Proteins	20.1%	20.1%

PPG Code	Description	Std Discount	Alt Discount
C001	Consumables - All Other Examples include: Irrigation Solutions, Nucleotide Decontaminants, Plastic Tanks, Radiation Decontaminants, Distillation Products, and Cell Scrapers.	35.8%	35.8%
C002	PPE – Hand Protection – Thin-Wall Gloves	52.0%	52.0%
C003	Filtration Products - Other Filtration Products	26.5%	26.5%
C004	Vials and Vial Inserts	39.0%	39.0%
C005	Pipets - Serological Pipets	45.7%	45.7%
C006	Specimen Collection - Evacuated Blood Tubes	18.8%	18.8%
C007	Microscope Slides	56.0%	56.0%
C008	Facility Safety - Maintenance & Operations - Consumables	45.1%	45.1%
C009	Cell Culture Flasks	26.5%	26.5%
C010	Tubes - Centrifuge Tubes	34.6%	34.6%
C011	Pipetter Tips - Universal Pipetter Tips	45.0%	45.0%
C012	PPE – Apparel	39.7%	39.7%
C013	Bottles - Other	40.6%	40.6%
C014	Bottles - Plastic Bottles [General Purpose]	45.3%	45.3%
C015	Microplates - Other	20.7%	20.7%
C016	Controlled Environments – Apparel	37.4%	37.4%
C017	Specimen Containers	34.1%	34.1%
C018	Controlled Environments – Wipers & Swabs	38.1%	38.1%
C019	Filtration Products - Bottletop Filters	20.6%	20.6%
C020	Filtration Products - Syringe and Syringeless Filters [Nonsterile]	27.3%	27.3%
C021	Controlled Environments – Gloves	46.9%	46.9%
C022	Filtration Products - Centrifugal Filter Devices	7.8%	7.8%
C023	Pipetter Tips - Pipetter Specific Tips	29.0%	29.0%
C024	Cell Culture Microplates	19.4%	19.4%
C025	Pipetter Tips - Filtering Pipetter Tips	29.2%	29.2%
C026	Cleaning Products	31.1%	31.1%
C027	Specimen Collection - Winged Collection Set	23.6%	23.6%
C028	Microplates - Assay Microplates	22.4%	22.4%
C029	Dishes - Petri Dishes	59.4%	59.4%
C030	Tubes - Test Tubes	45.2%	45.2%
C031	Tubes - Storage Tubes	29.8%	29.8%
C032	Chromatography Columns	12.2%	12.2%
C033	Bottles - Media Bottles	38.3%	38.3%
C034	Pipets - Transfer Pipets	58.5%	58.5%
C035	Tubes - Microtubes	55.6%	55.6%
C036	Syringes - General Purpose Syringes	29.5%	29.5%
C037	Cell Culture Tubes	54.8%	54.8%

PPG Code	Description	Std Discount	Alt Discount
C038	Cell Culture Dishes	23.2%	23.2%
C039	Chromatography Columns and Supplies	18.1%	18.1%
C040	Cellware [Specialty]	22.8%	22.8%
C041	Bags - Sample Bags	39.2%	39.2%
C042	Specimen Collection - Microbiology and Transport Systems	17.4%	17.4%
C043	Pipets - Other	51.6%	51.6%
C044	Tubing and Tubing Connectors	38.9%	38.9%
C045	Specimen Collection - Urine Specimen Collection	35.2%	35.2%
C046	Bottles - Glass Bottles [General Purpose]	40.2%	40.2%
C047	Specimen Collection - Blood Specimen Collection	21.1%	21.1%
C048	Specimen Collection - Tubes for Blood Collection	32.6%	32.6%
C049	Controlled Environments – Housekeeping, Matting, Packaging, Stationary & Tape	27.1%	27.1%
C050	Syringes - Other	26.5%	26.5%
C051	Bags - Autoclaving Bags	52.8%	52.8%
C052	PPE – Eye, Face, and Hearing	45.9%	45.9%
C053	Flasks - Other	39.7%	39.7%
C054	Filtration Products - Filter Units	19.7%	19.7%
C055	Microplate Covers	20.9%	20.9%
C056	Flasks - Volumetric	44.3%	44.3%
C057	Water and Wastewater Testing Supplies	27.6%	27.6%
C058	Dishes - Other	56.7%	56.7%
C059	Facility Safety - First Aid, Identification & Communication, Spill Control & Containment	26.7%	26.7%
C060	Specimen Collection - Tube Needles	31.8%	31.8%
C061	Carboys and Jerricans	45.4%	45.4%
C062	Tubes - Tube Closures	38.5%	38.5%
C063	PPE – Hand Protection – Work & Specialty Gloves	33.6%	33.6%
C064	Reservoirs and Reservoir Liners	26.5%	26.5%
C065	Coverslips	55.7%	55.7%
C066	Tubes - Other	26.2%	26.2%
C067	Specimen Collection - Other	19.2%	19.2%
C068	Cylinders [Laboratory]	42.7%	42.7%
C069	Membranes For Hybridization and Transfer	15.1%	15.1%
C070	Autoradiography Supplies	25.6%	25.6%
C071	Waste Disposal Containers	39.8%	39.8%
C072	Bench Protectors	42.0%	42.0%
C073	Funnels	45.9%	45.9%
C074	Bags - Other	30.8%	30.8%
C075	Cuvets and Cells	36.7%	36.7%

PPG Code	Description	Std Discount	Alt Discount
C076	Beakers - Plastic and Other	42.5%	42.5%
C077	PPE – Hand Protection – Chemical Resistant Gloves	35.9%	35.9%
C078	Embedding Cassettes	20.0%	20.0%
C079	Beakers - Glass	42.6%	42.6%
C080	Knives and Knife Blades	39.2%	39.2%
C081	Pipetter Tips - Robotic Pipetter Tips	21.0%	21.0%
C082	Film and Foil Wrapping	47.8%	47.8%
C083	Pipetter Tips - Other	41.4%	41.4%
C084	Stirring Bars and Rods	48.1%	48.1%
C085	Fire Fighting & Emergency Response – PPE	52.1%	52.1%
C086	Stoppers	34.5%	34.5%
C087	Burets	40.8%	40.8%
C088	Samplers	25.3%	25.3%
C089	Spatulas [General Purpose]	38.0%	38.0%
C090	Crucibles	43.1%	43.1%
C091	Bottles - Wash Bottles	42.7%	42.7%
C092	Pipetter Tips - Repeater Pipetter Tips	25.6%	25.6%
C093	PPE – Head Protection	35.1%	35.1%
D001	Diagnostics - All Other Examples include: Magnetic Particles, Nitric Oxide Pathway Reagents and Kits, RNAi Controls, Cell Growth and Differentiation Reagents and Kits, and Food Chemistry Test Kits	6.8%	6.8%
D002	Clinical Diagnostic Kits and Reagents - Other	24.5%	24.5%
D003	Clinical Controls Calibrators and Standards	20.9%	20.9%
D004	Protein Chemistry Reagents and Kits	5.4%	5.4%
D005	Clinical Diagnostic Kits and Reagents - Influenza Testing	18.9%	18.9%
D006	Molecular Biology Reagents and Kits - Other	4.3%	4.3%
D007	Clinical Diagnostic Kits and Reagents - Pregnancy [hCG] Tests	34.2%	34.2%
D008	Clinical Diagnostic Kits and Reagents - Streptococcus Testing	17.1%	17.1%
D009	Western Blotting, ELISA and Cell Imaging	7.4%	7.4%
D010	Clinical Diagnostic Kits and Reagents - C. difficile Testing	24.0%	24.0%
D011	Electrophoresis Reagents	9.6%	9.6%
D012	Tissue Processing Reagents	22.4%	22.4%
D013	Clinical Diagnostic Kits and Reagents - General Chemistry Testing	8.2%	8.2%
D014	Immunoassay Testing	5.7%	5.7%
D015	Molecular Biology Reagents and Kits - Nucleic Acid Labeling and Detection	4.1%	4.1%
D016	Molecular Biology Reagents and Kits - DNA Extraction and Purification	9.5%	9.5%
D017	Clinical Diagnostic Kits and Reagents - Urinalysis Testing	24.1%	24.1%

PPG Code	Description	Std Discount	Alt Discount
D018	Dialysis Desalting and Buffer Exchange	3.5%	3.5%
D019	Microbiology Products	18.3%	18.3%
D020	Hematology Stains	18.6%	18.6%
D021	Immunoreagents	5.5%	5.5%
D022	Antibody Production and Purification	5.1%	5.1%
E001	Equipment - All Other Examples include: Slide Warmers, Tissue Processors and Accessories, Ultraviolet Lamps, Pipetting Workstations, Automated Laboratory Robotics, and Heat Stress Monitors	19.2%	19.2%
E002	Refrigerators and Freezers - Other	30.4%	30.4%
E003	Incubators	24.0%	24.0%
E004	Refrigerators and Freezers - Ultra Low Temperature Freezers [Upright]	29.7%	29.7%
E005	Pipetters - Manual Pipetters	20.3%	20.3%
E006	Microscopes	22.8%	22.8%
E007	Centrifuges - Benchtop [General Purpose]	10.8%	10.8%
E008	PPE – Respiratory Protection	30.3%	30.3%
E009	Microtomy Equipment	8.6%	8.6%
E010	Water Purification - Other	15.3%	15.3%
E011	Hoods and Enclosures	19.7%	19.7%
E012	Centrifuges - Benchtop Microcentrifuges	20.9%	20.9%
E013	Baths - Other	24.7%	24.7%
E014	Centrifuges - Benchtop Other	14.7%	14.7%
E015	Pipetters - Other	15.9%	15.9%
E016	Pumps - Vacuum	29.0%	29.0%
E017	Hotplates	31.5%	31.5%
E018	Shakers and Mixers - Platform Shakers	19.8%	19.8%
E019	Ovens	26.8%	26.8%
E020	Shakers and Mixers - Other	34.7%	34.7%
E021	Centrifuges - Centrifuge Accessories	17.1%	17.1%
E022	Pipet Fillers	32.6%	32.6%
E023	Sterilizers	21.5%	21.5%
E024	Blenders and Homogenizers	25.3%	25.3%
E025	Pumps - Other	25.6%	25.6%
E026	Electrophoresis Equipment	22.2%	22.2%
E027	Water Purification - Pretreatment and Polishing Systems	18.8%	18.8%
E028	Evaporators	14.1%	14.1%
E029	Counting Devices	22.0%	22.0%
E030	Baths - Water	30.8%	30.8%
E031	Stirrers - Magnetic	26.9%	26.9%
E032	Furnaces	26.0%	26.0%

PPG Code	Description	Std Discount	Alt Discount
E033	Mills	20.4%	20.4%
E034	Washers and Dryers for Glassware	23.2%	23.2%
E035	Pumps - Tubing	24.0%	24.0%
E036	Stirrers - Overhead	25.3%	25.3%
E037	Ultrasonic Cleaners	18.6%	18.6%
E038	Freeze Drying Equipment	27.3%	27.3%
E039	Microplate Washers	10.0%	10.0%
E040	Heaters	14.2%	14.2%
E041	Photodocumentation Systems	13.7%	13.7%
E042	Chromatography Equipment	5.6%	5.6%
E900	Equipment - Education	0.0%	0.0%
F001	Furniture	37.1%	37.1%
H001	Chemicals - All Other Examples include Desiccants and Drying Agents, Intravenous Solutions, Stains and Dyes and Indicators, and all chemicals not covered by another specific PPG listed below.	32.1%	32.1%
H002	Organics	34.4%	34.4%
H003	Solvents - Other	63.7%	63.7%
H004	Acids - Inorganic	47.5%	47.5%
H005	Inorganics - Other	51.1%	51.1%
H006	Buffers	38.4%	38.4%
H007	Solvents - Acetonitrile	43.9%	43.9%
H008	Solvents - Methanol	65.5%	65.5%
H009	Solvents - Ethanol	37.1%	37.1%
H010	Histology Reagents	54.8%	54.8%
H011	Inorganics - Sodium Compounds [Inorganics]	56.4%	56.4%
H012	Solutions for Chemical Testing	44.3%	44.3%
H013	Standards	29.3%	29.3%
H014	Solvents - Isopropanol [IPA]	62.9%	62.9%
H015	Caustics	58.6%	58.6%
H016	Solvents - Acetone	65.0%	65.0%
H017	Water	54.4%	54.4%
H018	Acids - Organic	50.3%	50.3%
H019	Solvents - Methylene Chloride	69.9%	69.9%
H020	Solvents - Hexanes	71.4%	71.4%
H021	Solvents - Xylenes	76.3%	76.3%
I001	Instruments - All Other Examples include: Radiation Contamination Monitors, Rheometers, Hygrometers and Accessories, Immunoassay Systems, Chromatography Products, and Flow Cytometers and Accessories.	14.4%	14.4%

PPG Code	Description	Std Discount	Alt Discount
I002	Spectrometry and Spectrophotometry	10.9%	10.9%
I003	Balances - Other	27.5%	27.5%
I004	Electrochemistry	25.7%	25.7%
I005	Clinical Chemistry Analyzers	28.8%	28.8%
I006	Coagulation Analyzers	32.0%	32.0%
I007	Balances - Analytical Balances	28.0%	28.0%
I008	Thermometers	32.8%	32.8%
I009	PH ORP Titration	27.5%	27.5%
I010	Instrumentation – Radiation, Chemical, Noise, Heat-Stress & Air Quality Monitoring	9.6%	9.6%
I011	Microplate Readers	13.4%	13.4%
I012	Electrodes	26.3%	26.3%
I013	Thermal Cycling Instruments	9.1%	9.1%
I014	Timers	31.3%	31.3%
I015	Viscometry Instruments	20.4%	20.4%
I016	Anemometers and Flowmeters	15.8%	15.8%
X001	Discounts not Allowed	0.0%	0.0%
X002	Discounts not Allowed	0.0%	0.0%
X003	Discounts not Allowed	0.0%	0.0%
X004	Discounts not Allowed	0.0%	0.0%
X005	Discounts not Allowed	0.0%	0.0%
X006	Discounts not Allowed	0.0%	0.0%
Note: When the calculated price for a catalog product falls below Thermo Fisher Scientific's cost plus 7%, the price charged will be cost plus 7%.			

2017 Hotlist and all Pricing for the State of Florida Contract, which includes over 1 millio

Index	Fisher Catalog Number	Fisher Catalog Description	Std Unit of Measure
1	136786A	PIPET DISP 5-3/4IN 250PK	PK
2	0540224B	TUBES SAFE-LOCK 1.5ML 100/CS	CS
3	09923348	FTA PURIF REAGNT - 500ML 1PK	PK
4	AC125250010	DL-MALIC ACID, 99% 1KG	EA
5	MHA000P2F	M-FECAL COLIFORM 50/PK	PK
6	SB1754	BUFFER SOL TISAB /IN CDTA/ 4L	EA
7	SB107500	BUFFER CLRD YEL PH 7.00 500ML	EA
8	14230232	PCR PLT 96 NO SKIRT NT 25CS	CS
9	1523561	WYPALL X60 TERI WIPERS 100/PK	PK
10	1496125	TUBE CULT DSP 10X75MM 1000/CS	CS
11	01828D	BG AUTO PP RED 25X35 200/PK	PK
12	65901	REAGENT ALCOHOL ACS, 4 L	EA
13	093284	NBS CONDUCTVTY STDS .0001 MEG	EA
14	0540314	EPTPS FLTR 0.1-105LS PCR 960CS	CS
15	19050548A	GLV LATX EXM FB ALOE SM 100/PK	PK
16	588732	COND STD, 100 5S/CM, 1 L	EA
17	DF0156173	LACTOSE 500 GM	EA
18	23042305	MLTSTX REAG STRP 10SG 100/PK	PK
19	1495949A	TUBE CONIC 50ML W/RACK 500/CS	CS
20	0540318	EPTIPS FILTER 2-100UL 960CS	CS
21	19050550C	GLV NTRL EXM FB ALOE LG 100/PK	PK
22	01828A	BG AUTO PP RED 8X12 200/PK	PK
23	1368063	ALCOHOL SWABS 1200/CS	CS
24	02707511	1000U CLR TIP METLFREE 1000/PK	PK
25	DF0223172	UVM MODIF LISTERIA BR 500GM	EA
26	05719345	BTL W/M AMB RECT CERT 1L 24/CS	CS
27	A258500	PROPIONIC ACID CERTIFIED 500ML	EA
28	09795F	FILTER PAPER 15CM 100/PK	PK
29	08732122	DISPOSABLE BEAKER 50ML 500/PK	PK
30	0333930H	VIAL SHELL 23X85MM 6DR 144/PK	PK
31	19050550D	GLV NTRL EXM FB ALOE XL 100/PK	PK
32	120097A	BOX DISP GLASS FLOOR MDL 6/PK	PK
33	SB11520	BUFFER COLORED BLUE PH 10 20L	EA
34	19058801D	GLV EXAM AMB LTX PF LG 100/PK	PK
35	191301597B	FB NITRILE GLV PF LF S 100/PK	PK
36	19149864B	EXAMGLV NITR 12IN SZ M 50EAPK	PK
37	191301597D	FB NITRILE GLV PF LF L 100/PK	PK
38	0540315	EPTPS FLTR 0.1- 10UL PCR 960CS	CS
39	SLGVX13NL	MILLEX 13MM .22UM PVDF 100/PK	PK
40	A4671	NITRIC ACID OPTIMA 1L	EA
41	SH3053802	WATER MOLECULAR BIO. 500ML	EA

42	1496127	TUBE CULT DSP 13X100MM 1000/CS	CS
43	A9294	ACETONE OPTIMA GRADE 4L	EA
44	013617D	CVL TYVK HD ELS WA XL 25/CS	CS
45	2123635	TIP ART REACH 10UL 960PK	PK
46	0339135	INSERT LGID 300UL WSPRNG 100PK	PK
47	58884332	KCL COND STD, 5000 5S/CM, 1L	EA
48	125441	FF MICRO SLIDES 3X1 IN 144/GR	GR
49	19050550B	GLV NTRL EXM FB ALOE MD 100/PK	PK
50	A9964	ACETONITRILE OPTIMA GRADE 4L	EA
51	19027343	BURN COMPOUND 1/8 6/PK	PK
52	B21192X	XLD AGAR OPTILUX PLATE 20/PK	PK
53	R01202	BLOOD AGAR 100/CS	CS
54	A998SK4	ACETONITRILE HPLC 4L SAFE-COTE	EA
55	093283	NBS CONDUCTVTY STDS .001 MEG	EA
56	PD20047S5	PETRI-PAD 47MM STER 600/PK	PK
57	089275B	SCALPEL DISPOSABLE NO11 20/PK	PK
58	09825J	FILTER PPR GR 4 4.25CM 100/PK	PK
59	0987471	GLS FBR PPR GFF 4.7CM 100/PK	PK
60	19156104	NITRILE PF EXAM ORANG SM 100PK	PK
61	SH3007002	DEFINED FBS 100ML	EA
62	19170010C	GLV EXM AMB NTRL PF LG 100/PK	PK
63	191301633	INDUS WPR WYPALL X 180/CS	CS
64	054027	TUBE SAFE-LOCK 2ML NAT 500/CS	CS
65	PD2004705	PTRI DSH 47MM ASEPTC MLD 600PK	PK
66	AP4004700	GLASS FIBER FILTER 47MM 100PK	PK
67	0666524	WIPES ALCOHOL/DI 100/PK	PK
68	19149864C	EXAMGLV NITR 12IN SZ L 50EAPK	PK
69	B21365X	HEKTOEN ENTERIC AGAR 20/PK	PK
70	19161802	742 CRTG ORG VAP GAS-P100 2/PK	PK
71	0987444	GLASS FBR PPR GFD 2.5CM 100/PK	PK
72	B21239X	TRYPT SOY AGR W/5% BLOOD 20/PK	PK
73	191301597E	FB NITRILE GLV PF LF XL 100PK	PK
74	0553841C	CENT TUBE DSP PLN 10ML 125/CS	CS
75	055407	TB CULT STR 12X75MM PS 500/CS	CS
76	19149864A	EXAMGLV NITR 12IN SZ S 50EAPK	PK
77	A1820	ACETONE CERTIFIED ACS 20L	EA
78	EZHAWG474	EZ-PAK HAWG 47Q6000 600/PK	PK
79	0540320	EPTIPS FILTER 50-1000UL 960/CS	CS
80	PD1504700	PLASTIC PETRISLIDES 100/PK	PK
81	19058801B	GLV EXAM AMB LTX PF SM 100/PK	PK
82	15904	3/4X60 YARD AUTOCLAVE TAPE	EA
83	D1424	METHYLENE CHLOR PST GD CR 4L	EA
84	034484	BOX MICROSCPE SLIDE 100PYELLOW	EA
85	018125F	BAG WHIRL PAK SOD THIO 100/PK	PK

86	1482613	SYRINGE ONLY SLIP 10ML 100/PK	PK
87	0353052	MULTI-PURP BIO-MAILER 8/CS	CS
88	0987617	PH 0-14 BY 1 6X80MM 100/PK	PK
89	05408129	MCT N/S 1.5ML NAT 500/PKMCT	PK
90	033753A	TARGET POLY INSERT 100/PK	PK
91	07782E	CORKS XXX NO 2 500/PK	PK
92	1420637	SPR VERSI-DRY PROT20X250 250CS	CS
93	09795C	FILTER PAPER 9CM 100/PK	PK
94	09850D	FILTER PPR GR41 12.5CM 100/PK	PK
95	13641874	TISAB III CONC 1 PINT	EA
96	19149864	EXAMGLV NITR 12IN SZXS 50/PK	PK
97	1496126	CULT TUBE DISP 12X75MM 1000/CS	CS
98	0552745	CENTRIFUGE TUBE 15ML 1000/CS	CS
99	1496130	TUBE CULT DSP 16X125MM 1000/CS	CS
100	033753B	TARGT VL MICROSRT 400UL 500/PK	PK
101	SB1074	BUFFER CLRD YEL PH 7.00 4L	EA
102	SLCR013NK	MILLEX LCR 13MM 1000/PK	PK
103	1424571	DISP U PLATES RIGID STY 50/PK	PK
104	19058801A	GLV EXAM AMB LTX PF XS 100/PK	PK
105	2137752	FINNTIP 63 1-10ML BULK 100/PK	PK
106	R8311006	RAPID ONE SYSTEM 20PK	PK
107	0268397	VAC PLS SST GOLD 5ML 100/PK	PK
108	026894	EDTA PLUS CONV CLSR 4ML 100/PK	PK
109	DF0235178	UNIVERSAL PRE-ENRCH BROTH 500G	EA
110	19170010A	GLV EXM AMB NTRL PF SM 100/PK	PK
111	19058801E	GLV EXAM AMB LTX PF XL 100/PK	PK
112	S61310	SODIUM HYDROXIDE BEADS 10KG	EA
113	0571989	JAR CLEAR CERTIFIED 1L 12/CS	CS
114	SB115500	BUFFER COLRD BLUE PH 10 500ML	EA
115	013617F	CVL TYVK HD ELS WA 3X 25/CS	CS
116	A40720	ETHYL ALCOHOL DENATURED 20L	EA
117	SB101500	BUFFER COLRD RED PH 4.00 500ML	EA
118	AB0600	.2ML RKN PT PP N-SKRT NAT 25PK	PK
119	265532	DPD INDICATOR, 1 L	EA
120	A144212	HYDROCHLOR ACID REAG ACS 21/2L	EA
121	097479	PLYCP36 TC 0.2UM W/BL STR 1/PK	PK
122	09801C	FILTER PAPER 11CM 100/PK	PK
123	089275D	SCALPEL DISPOSABLE NO21 20/PK	PK
124	22130407	SHIPPER SMALL COOLER 8/CS	CS
125	09805K	FILTER PAPER WH 1 27CM 100/PK	PK
126	19002709	RESP P95 VLV FACE SEL OIL10/PK	PK
127	06718818	SPE SILICA 6ML/1000MG 30PK	PK
128	19050550A	GLV NTRL EXM FB ALOE SM 100/PK	PK
129	R23700	DILUTION BOTTLE 90ML 72/CS	CS

130	A219500	OXALIC ACID CERTIF ACS 500G	EA
131	A4564	METHANOL LC/MS OPTIMA 4L	EA
132	013617E	CVL TYVK HD ELS WA 2X 25/CS	CS
133	0292410A	BOTTLE RECTANG AMB 4OZ 12/PK	PK
134	14958A	DCT FLINT GLASS 6X50MM M/CS	CS
135	14850113	PH TEST STRIP 5.0-9.0	EA
136	19050548B	GLV LATX EXM FB ALOE MD 100/PK	PK
137	0334172	VIAL SCINT 20ML HDPE 500/CS	CS
138	SB1154	BUFFER COLRD BLUE PH 10 4L	EA
139	05719481	JAR SHORT WM CLR 250ML 12/CS	CS
140	D1514	METHYLENE CHLORIDE OPTIMA 4L	EA
141	0540341	EPTIPS RELOADS 200UL 960/PK	PK
142	22040068	VACUET 5ML GEL PULL GOLD 50/PK	PK
143	MRCF0R100	DNA FAST FLOW - 100 PK	PK
144	0540319	EPTIPS FILTER 20-300UL 960/CS	CS
145	14190507	TBG STD 0.045 12PKTBG STD 0.0	PK
146	22040074	VACUET 6ML PULL CAP SERUM50PK	PK
147	A61100	L-ASCORBIC ACID CRY ACS 100G	EA
148	13681102B	PIPET FILLER SILICONE BLACK	EA
149	14955114B	CONT MLTPRP 5OZ GRD TR 300/CS	CS
150	19170010B	GLV EXM AMB NTRL PF MD 100/PK	PK
151	0932811	CONDUCTIVITY SOL 1413 FISHER	EA
152	029245A	BOTTLE RECTANG HDPE 4OZ 12/PK	PK
153	033134F	BOTTLE SMPLE WM 1000ML 24/CS	CS
154	14376164	MICROCHCK TST FREE CHLRN 50PK	PK
155	19121275	GLS VIRT CLR TMP/LENS HC	EA
156	07782G	CORKS XXX NO 4 500/PK	PK
157	056005241N	CRMP CP PTFE/SI 20MM 100PK	PK
158	093282	NBS CONDUCTVTY STDS .01 MEG	EA
159	314432	FERROUS AM SULFATE 0.00282N,1L	EA
160	0540316	EPTPS FLTR 0.5-20UL LPCR 960CS	CS
161	05719101	VIAL EPA CLN W/SEP 40ML 72/CS	CS
162	191301597C	FB NITRILE GLV PF LF M 100/PK	PK
163	19050548C	GLV LATX EXM FB ALOE LG 100/PK	PK
164	0571991	BOTTLE CERT/EPA 1-LITER 12/CS	CS
165	013617C	CVL TYVK HD ELS WA L 25/CS	CS
166	14190501	TBG STD 0.015 12PKTBG STD 0.0	PK
167	SH3002401	MEMEBSS LIQUID MEDIA 500MLME	EA
168	23400102	FB APPLICATOR WOOD 6IN 864/PK	PK
169	A4524	METHANOL CERT ACS/HPLC 4L	EA
170	SH3052501	LEIBOVITZ L-15 W/ L-GLUT 500ML	EA
171	R01880	THAYER MARTIN AGR MODFD 10/PK	PK
172	23292758	AQUACHEK CHLOR TST STRP 50/PK	PK
173	09873DD	GLS FIBR FILT PPR 47MM 100/PK	PK

174	0973556	FLTR PROWEIGH FOR TSS 100/PK	PK
175	1367820A	PIPET DISP 5 3/4 IN 720/CS	CS
176	1523579	WYPALL TERITWLS POPUP 1260/CS	CS
177	191501659	NEMESIS BLK/SMOKE LENS	EA
178	19168175	3M RESPIRATOR 8200 N95 20/PK	PK
179	09805B	FILTER PPR WH 1 5.5CM 100/PK	PK
180	ICN90331225	BREWERS YEAST 25LB	EA
181	19170010D	GLV EXM AMB NTRL PF XL 100/PK	PK
182	1496226G	CUL TUBE BOR SC 16X125 1000/CS	CS
183	02686202B	DILU-LOK PHOS BFR WM99ML 50/CS	CS
184	0640619B	CRIMP SEAL11MM PTFE/RR 1000/CS	CS
185	087725	ASSAY PLATE 96WELL BTM 50/CS	CS
186	A404	ACETONE PESTICIDE GRADE 4L	EA
187	SB10120	BUFFER COLORED RED PH 4 20L	EA
188	23900513D	LABCOAT XSAFE CEIL BLU XL10/PK	PK
189	1367811E	PIPET STER 10ML(0.1GRAD)200/CS	CS
190	1495970C	CENTRIFUGE TUBE PP 15ML 500/CS	CS
191	19149864D	EXAMGLV NITR 12IN SZXL 50EAPK	PK
192	13683705	CBT. ADVANCED 5ML STANDARD	CS
193	0337527B	TRGT VIAL SNAPIT 1D AMB 100/PK	PK
194	0987464	GLASS FBR PPR GFF 2.5CM 100/PK	PK
195	A4544	METHANOL OPTIMA GRADE 4L	EA
196	580532	PHOSPHATE BUFF, DPD, 1 L	EA
197	2203115	UNIV VIRL TRANS SWAB STD 50/PK	PK
198	19058801C	GLV EXAM AMB LTX PF MD 100/PK	PK
199	03377B	VIAL ID DP TARGT CLR 100/PK	PK
200	R01552	MACCONKEY AGAR 100/CS	CS
201	0987435	FILTER PPR GF/C 4.7 CM 100/PK	PK
202	033134C	BOTTLE SMPLE WM 125ML 72/CS	CS
203	0666414	DRY CLEANWIPES 100/PK	PK
204	0337524	CRIMP SEAL 11MM PTFE/RR 100/PK	PK
205	0540366	EPTPS RCK 2-200UL 960/CSEPTP	CS
206	06717992	SLEEVE GOOSENECK 5PK	PK
207	21377146	FINNTIP 63 2-10ML 40/PK	PK
208	1367610B	PIPET STER 1ML(0.01GRAD)1000/C	CS
209	0333723C	VIAL SCIN 20ML PE W/CL 500/CS	CS
210	06718814	SPE FLORISIL 6ML/1000MG 30PK	PK
211	01828C	BG AUTO PP RED 19X23 200/PK	PK
212	0877233	TC PLATE 6 WELL BULK TRAY60CS	CS
213	23900513C	LABCOAT XSAFE CEIL BLU L 10/PK	PK
214	1495782A	CAP SCREW RUB LNR 13-415 M/CS	CS
215	2137745	FINTP UNV .5-250 BULK 1000/PK	PK
216	034481	BOX MICROSCOPE SLIDE 100P BLUE	EA
217	SB10720	BUFFER COLORED YEL PH 7 20L	EA

218	191301597A	FB NITRILE GLV PF LF XS 100/PK	PK
219	19014860	WYPALL X70 WORKHORSE 152/CS	CS
220	58880132	COND STD, 1000 5S/CM, 1 L	EA
221	0540317	EPTIPS FILTER 2-20UL 960CS	CS
222	19818400	LTX MEDCL PWDFR GLV XL 500CS	CS
223	0339686	TRGT DP VL CLR 350 UL 100PK	PK
224	0352536	INSULTED MAILER 6WX8LX7H 12/CS	CS
225	1495776A	TUBE CULT DSP 13X100MM 1000/CS	CS
226	19818401	LTX MEDCL PWDFR GLV L 500CSLT	CS
227	A509P212	NITRIC ACID TRACE MTL 2.5L	EA
228	19042201	CHEM/BIO GAS MASK LRG	EA
229	0553832B	TUBE CENT W/CAP 15ML 12/CS	CS
230	1167614	MULTI-PURPOSE MAILER 12/CS	CS
231	R08520	LWNSTN-JENSEN M GRUFT 100/CS	CS
232	FB0875712	PETRI DISH 100X15MM STACK 500	CS
233	5887532	KCL COND STD, 500 US/CM, 1 L	EA
234	06718495	INLET SEALS 10PK	PK
235	B14885	BOTTLED MEDIA 100GR	EA
236	14168192H	TUBING VINCON PVC 100FT/PK	PK
237	270032	EDTA, 0.0100 MOLAR, 1 L	EA
238	0666251	TIMER FISHER 99M595	EA
239	S47299	CLEANING TISH 4 X8 280/PK	PK
240	0339715	TRGT C/T VIAL CLR 350UL 100/PK	PK
241	0339116	VL 2ML CLR 10-425 SCRTHD 100PK	PK
242	19121677	ENFRCMNT CRTRDGE EA	EA

Note: Including the Hotlist Items there are over 1 million+ products from Fisher Scientific & Thermo Fishe
The new Pricing for 2017 will be effective January 1, 2017 - Per the terms of the Contract the price change

n products, is available on the the Fisher Website at www.fishersci.com

2017 Std Unit Price	Alt Unit of Measure	2017 Alt Unit Price	New Item	Extended Sales	Purchased in LTM
$ 10.42	CS	$ 39.50	N	$ 345.60	Y
$ 38.59	CS	$ -	N	$ 961.75	Y
$ 204.17	PK	$ -	N	$ 6,103.20	Y
$ 35.61	EA	$ -	N	$ 319.50	Y
$ 60.41	PK	$ -	N	$ 43,822.46	Y
$ 154.98	CS	$ 534.23	N	$ 14,594.08	Y
$ 11.64	CS	$ 61.05	N	$ 7,423.57	Y
$ 44.57	CS	$ -	N	$ 5,045.68	Y
$ 26.26	CS	$ 199.39	N	$ 43,798.89	Y
$ 31.64	CS	$ -	N	$ 1,867.86	Y
$ 130.95	PK	$ -	N	$ 652.55	Y
$ 30.89	EA	$ -	N	$ 763.72	Y
$ 26.28	EA	$ -	N	$ 1,503.00	Y
$ 127.37	CS	$ -	N	$ 2,476.00	Y
$ 12.87	CS	$ 109.76	N	$ 965.00	Y
$ 20.15	EA	$ -	N	$ 1,131.83	Y
$ 31.54	EA	$ -	N	$ 345.73	Y
$ 94.09	CS	$ 2,145.21	N	$ 87.95	Y
$ 216.07	CS	$ -	N	$ 8,313.91	Y
$ 119.50	CS	$ -	N	$ 7,434.24	Y
$ 16.71	CS	$ 148.40	N	$ 10,708.78	Y
$ 39.41	PK	$ -	N	$ 589.35	Y
$ 20.60	CS	$ -	N	$ 7,716.38	Y
$ 96.92	CS	$ 473.71	N	$ 1,024.91	Y
$ 84.43	EA	$ -	N	$ 4,993.80	Y
$ 138.41	CS	$ -	N	$ 1,103.44	Y
$ 20.12	CS	$ 81.78	N	$ 160.48	Y
$ 6.27	PK	$ -	N	$ 482.69	Y
$ 90.88	CS	$ 844.10	N	$ 13,428.41	Y
$ 41.65	CS	$ 129.94	N	$ 8,195.54	Y
$ 16.48	CS	$ 146.16	N	$ 3,107.56	Y
$ 52.61	PK	$ -	N	$ 3,623.47	Y
$ 83.66	EA	$ -	N	$ 13,409.24	Y
$ 11.75	CS	$ 95.65	N	$ 2,115.40	Y
$ 11.43	CS	$ 112.30	N	$ 6,840.00	Y
$ 19.41	CS	$ 142.83	N	$ 9,685.12	Y
$ 11.15	CS	$ 109.61	N	$ 12,389.77	Y
$ 128.72	CS	$ -	N	$ 3,603.85	Y
$ 214.25	PK	$ -	N	$ 8,070.06	Y
$ 420.31	EA	$ -	N	$ 9,790.89	Y
$ 12.44	EA	$ -	N	$ 345.08	Y

$	33.22	CS	$	-	N	$	11,048.93 Y
$	47.00	CS	$	188.22	N	$	3,770.27 Y
$	168.37	CS	$	-	N	$	1,181.04 Y
$	73.50	CS	$	367.48	N	$	4,604.09 Y
$	72.77	PK	$	-	N	$	11,377.18 Y
$	28.70	EA	$	-	N	$	195.37 Y
$	24.12	CS	$	197.37	N	$	927.18 Y
$	16.68	CS	$	148.04	N	$	8,517.90 Y
$	134.31	CS	$	533.83	N	$	2,391.17 Y
$	4.25	CS	$	394.25	N	$	40.58 Y
$	31.00	PK	$	-	N	$	60.26 Y
$	37.52	CS	$	-	N	$	3,120.39 Y
$	104.98	CS	$	420.11	N	$	4,353.32 Y
$	26.70	EA	$	-	N	$	2,892.99 Y
$	175.60	PK	$	-	N	$	22,933.36 Y
$	31.45	CS	$	1,203.72	N	$	52,455.73 Y
$	6.21	PK	$	-	N	$	393.25 Y
$	103.66	PK	$	-	N	$	10,726.59 Y
$	16.37	CS	$	163.89	N	$	533.65 Y
$	121.67	CS	$	-	N	$	3,991.78 Y
$	7.71	CS	$	77.62	N	$	6,443.48 Y
$	17.82	CS	$	-	N	$	977.35 Y
$	42.93	CS	$	-	N	$	1,747.28 Y
$	146.20	PK	$	-	N	$	9,635.72 Y
$	32.47	PK	$	-	N	$	5,463.34 Y
$	17.42	PK	$	-	N	$	1,389.60 Y
$	22.29	CS	$	149.22	N	$	3,253.36 Y
$	27.63	PK	$	-	N	$	53.73 Y
$	18.54	PK	$	-	N	$	389.34 Y
$	26.99	PK	$	-	N	$	105.00 Y
$	9.59	PK	$	-	N	$	1,147.72 Y
$	11.44	CS	$	112.45	N	$	8,269.58 Y
$	68.60	CS	$	-	N	$	3,626.56 Y
$	71.86	CS	$	-	N	$	2,283.79 Y
$	23.07	CS	$	196.97	N	$	9,975.79 Y
$	119.82	EA	$	-	N	$	5,096.32 Y
$	270.88	PK	$	-	N	$	97,593.24 Y
$	127.44	CS	$	-	N	$	15,178.89 Y
$	58.52	PK	$	-	N	$	910.56 Y
$	10.98	CS	$	89.35	N	$	1,091.66 Y
$	4.61	EA	$	-	N	$	295.95 Y
$	58.46	CS	$	197.50	N	$	26,858.32 Y
$	6.35	CS	$	439.03	N	$	494.75 Y
$	28.82	CS	$	260.60	N	$	16,633.13 Y

$	18.54	CS	$	69.75	N	$	5,947.83 Y
$	73.29	CS	$	-	N	$	7,962.94 Y
$	17.58	PK	$	-	N	$	3,723.15 Y
$	12.17	CS	$	121.99	N	$	1,803.49 Y
$	97.02	PK	$	-	N	$	7,904.73 Y
$	39.95	PK	$	-	N	$	2,990.68 Y
$	103.16	CS	$	-	N	$	2,808.12 Y
$	3.51	PK	$	-	N	$	180.52 Y
$	36.54	PK	$	-	N	$	1,188.99 Y
$	118.26	EA	$	-	N	$	11,720.00 Y
$	23.88	CS	$	201.99	N	$	206.28 Y
$	32.25	CS	$	-	N	$	5,592.87 Y
$	61.28	CS	$	-	N	$	977.28 Y
$	55.18	CS	$	-	N	$	3,089.40 Y
$	64.39	PK	$	-	N	$	438.34 Y
$	44.21	CS	$	140.70	N	$	11,924.58 Y
$	1,328.25	PK	$	-	N	$	3,872.64 Y
$	77.48	PK	$	-	N	$	7,482.52 Y
$	11.31	CS	$	91.78	N	$	1,052.30 Y
$	19.32	PK	$	-	N	$	3,591.56 Y
$	208.84	PK	$	-	N	$	1,120.96 Y
$	37.26	CS	$	372.98	N	$	4,567.73 Y
$	24.36	CS	$	244.10	N	$	11,231.88 Y
$	55.86	EA	$	-	N	$	2,784.00 Y
$	8.00	CS	$	80.51	N	$	465.17 Y
$	11.36	CS	$	92.54	N	$	4,983.02 Y
$	118.34	EA	$	-	N	$	1,769.10 Y
$	61.17	CS	$	-	N	$	297.15 Y
$	12.59	CS	$	64.91	N	$	9,496.88 Y
$	168.46	CS	$	-	N	$	1,501.63 Y
$	103.42	EA	$	-	N	$	2,886.24 Y
$	12.56	CS	$	62.33	N	$	5,769.74 Y
$	49.56	PK	$	-	N	$	8,364.18 Y
$	37.66	EA	$	-	N	$	6,074.96 Y
$	32.55	EA	$	-	N	$	1,582.08 Y
$	65.57	PK	$	-	N	$	5,359.52 Y
$	4.37	PK	$	-	N	$	863.60 Y
$	32.42	CS	$	1,370.37	N	$	24,301.93 Y
$	43.48	CS	$	-	N	$	169.08 Y
$	42.43	PK	$	-	N	$	2,515.64 Y
$	35.21	CS	$	209.01	N	$	384.58 Y
$	101.01	PK	$	-	N	$	982.00 Y
$	16.42	CS	$	145.62	N	$	1,595.35 Y
$	89.90	CS	$	-	N	$	2,671.10 Y

$	78.25	CS	$	338.60	N	$	935.88 Y
$	57.80	CS	$	231.49	N	$	4,171.32 Y
$	168.57	CS	$	-	N	$	1,587.95 Y
$	32.49	CS	$	134.33	N	$	4,008.82 Y
$	26.06	CS	$	-	N	$	597.54 Y
$	8.57	PK	$	51.06	N	$	911.65 Y
$	12.86	CS	$	105.04	N	$	2,826.36 Y
$	117.13	CS	$	-	N	$	114.44 Y
$	39.94	CS	$	135.95	N	$	9,979.01 Y
$	51.82	CS	$	-	N	$	1,549.80 Y
$	45.98	CS	$	184.09	N	$	3,577.26 Y
$	51.31	PK	$	-	N	$	4,060.85 Y
$	15.64	CS	$	303.33	N	$	62.40 Y
$	322.22	PK	$	-	N	$	16,269.41 Y
$	115.74	CS	$	-	N	$	9,986.52 Y
$	23.55	PK	$	-	N	$	1,225.32 Y
$	9.13	CS	$	167.79	N	$	62.23 Y
$	31.41	CS	$	160.00	N	$	4,747.81 Y
$	18.34	EA	$	-	N	$	630.14 Y
$	58.13	CS	$	-	N	$	1,564.11 Y
$	7.91	CS	$	79.50	N	$	3,142.46 Y
$	24.93	EA	$	-	N	$	1,654.54 Y
$	23.34	CS	$	88.18	N	$	175.76 Y
$	84.53	CS	$	-	N	$	1,972.32 Y
$	14.20	PK	$	-	N	$	2,511.92 Y
$	1.63	CS	$	166.96	N	$	177.80 Y
$	40.42	PK	$	-	N	$	1,454.10 Y
$	89.80	PK	$	-	N	$	4,237.32 Y
$	26.50	EA	$	-	N	$	2,691.90 Y
$	20.61	EA	$	-	N	$	9,612.54 Y
$	119.56	CS	$	-	N	$	3,254.16 Y
$	102.90	CS	$	-	N	$	28,115.95 Y
$	11.49	CS	$	113.05	N	$	16,462.16 Y
$	12.55	CS	$	106.92	N	$	1,570.66 Y
$	45.33	CS	$	-	N	$	25,202.85 Y
$	168.55	CS	$	-	N	$	950.88 Y
$	23.70	PK	$	-	N	$	796.30 Y
$	5.46	EA	$	-	N	$	358.60 Y
$	8.77	CS	$	95.56	N	$	3,656.08 Y
$	22.76	CS	$	91.18	N	$	1,538.45 Y
$	12.21	EA	$	-	N	$	529.26 Y
$	8.60	PK	$	-	N	$	283.86 Y
$	18.45	CS	$	221.37	N	$	10,871.92 Y
$	34.30	PK	$	-	N	$	13,091.59 Y

$	138.63	PK	$	-	N	$	15,495.10 Y
$	33.02	CS	$	-	N	$	541.44 Y
$	84.37	CS	$	-	N	$	7,563.22 Y
$	5.96	CS	$	53.41	N	$	106.46 Y
$	8.44	CS	$	67.76	N	$	135.06 Y
$	6.90	PK	$	-	N	$	1,099.12 Y
$	91.68	EA	$	-	N	$	822.33 Y
$	7.88	CS	$	79.13	N	$	4,020.71 Y
$	248.08	CS	$	-	N	$	13,088.52 Y
$	71.15	CS	$	-	N	$	16,737.18 Y
$	97.00	CS	$	-	N	$	4,526.40 Y
$	94.36	CS	$	-	N	$	8,109.20 Y
$	62.65	CS	$	179.53	N	$	3,140.82 Y
$	95.40	EA	$	-	N	$	9,136.50 Y
$	30.58	CS	$	257.16	N	$	249.90 Y
$	32.25	CS	$	-	N	$	1,831.80 Y
$	159.01	CS	$	-	N	$	7,435.40 Y
$	22.77	CS	$	194.39	N	$	1,615.28 Y
$	97.31	CS	$	-	N	$	2,554.20 Y
$	25.06	CS	$	421.63	N	$	420.24 Y
$	74.80	PK	$	-	N	$	3,704.07 Y
$	31.82	CS	$	126.78	N	$	2,015.48 Y
$	19.90	EA	$	-	N	$	2,855.08 Y
$	147.18	PK	$	-	N	$	6,008.10 Y
$	11.43	CS	$	93.06	N	$	384.04 Y
$	20.82	CS	$	370.57	N	$	4,431.12 Y
$	37.27	CS	$	-	N	$	773.60 Y
$	70.51	PK	$	-	N	$	11,960.54 Y
$	60.16	CS	$	-	N	$	1,403.76 Y
$	7.05	PK	$	-	N	$	403.46 Y
$	12.62	PK	$	-	N	$	1,620.88 Y
$	65.60	CS	$	-	N	$	2,547.20 Y
$	88.04	PK	$	-	N	$	1,922.64 Y
$	9.87	PK	$	-	N	$	765.56 Y
$	109.95	CS	$	-	N	$	1,603.20 Y
$	89.85	CS	$	-	N	$	3,129.42 Y
$	110.72	PK	$	-	N	$	5,381.00 Y
$	70.88	PK	$	-	N	$	1,446.69 Y
$	106.15	CS	$	-	N	$	2,166.78 Y
$	29.43	CS	$	242.47	N	$	1,222.40 Y
$	81.78	CS	$	-	N	$	3,368.28 Y
$	39.96	PK	$	-	N	$	932.40 Y
$	6.68	CS	$	476.22	N	$	708.83 Y
$	93.31	EA	$	-	N	$	17,111.87 Y

$	11.45	CS	$	112.52	N	$	3,788.72 Y
$	34.17	CS	$	-	N	$	1,041.04 Y
$	21.03	EA	$	-	N	$	230.67 Y
$	128.72	CS	$	-	N	$	6,101.04 Y
$	266.42	CS	$	-	N	$	84,493.93 Y
$	106.07	PK	$	-	N	$	15,962.21 Y
$	137.10	CS	$	-	N	$	17,191.83 Y
$	223.45	CS	$	-	N	$	14,567.88 Y
$	277.59	CS	$	-	N	$	22,281.19 Y
$	133.82	EA	$	-	N	$	24,676.54 Y
$	351.94	EA	$	-	N	$	4,788.70 Y
$	200.89	CS	$	-	N	$	7,020.41 Y
$	121.18	CS	$	-	N	$	7,301.74 Y
$	718.21	CS	$	-	N	$	37,676.00 Y
$	135.81	CS	$	-	N	$	15,826.25 Y
$	26.76	EA	$	-	N	$	369.00 Y
$	256.70	PK	$	-	N	$	254.18 Y
$	277.77	EA	$	-	N	$	2,687.17 Y
$	115.24	PK	$	-	N	$	222.74 Y
$	10.80	EA	$	-	N	$	186.48 Y
$	15.39	EA	$	-	N	$	71.45 Y
$	4.14	CS	$	248.40	N	$	79.80 Y
$	107.35	PK	$	-	N	$	6,334.50 Y
$	18.96	PK	$	-	N	$	1,118.60 Y
$	28.22	EA	$	-	N	$	1,618.80 Y
r under State of Florida Contract						$	1,475,534.32
e in aggregate is capped at 1.6%							

fisher scientific
part of Thermo Fisher Scientific

To whom it may concern,

Boynton Beach Utilities has access to the State of Florida contact number 41120000-15-ACS and all of the terms and conditions held there in.

For further details on this contract please refer to the following State of Florida procurement portal link:

http://www.dms.myflorida.com/business_operations/state_purchasing/vendor_information/state_contracts_and_agreements/alternate_contract_source/research_laboratory_supplies

Sincerely,

Francesca Rutter

Francesca Rutter

November 1, 2017

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Approve the ranking of the proposers as determined by the Evaluation Committee and authorize staff to conduct negotiations with the first ranked firm Ric-Man International, Inc. and establish contracts in accordance with Request for Qualifications (RFQ) No. 037-2821-17/TP for Central Seacrest Corridor Utility Improvements Phase II and as per Florida Statute 287.055, Consultants' Competitive Negotiation Act (CCNA). At the completion of each phase of the negotiations, the Contracts will be brought back to the Commission for approval.

EXPLANATION OF REQUEST:

On September 5, 2017, pursuant to CCNA, Procurement Services opened five (5) proposals in response to the RFQ for Central Seacrest Corridor Utility Improvements – Phase II. This RFQ was issued seeking qualified design/build (DB) firms to submit their team's qualifications to perform design build services to design, permit and construct improvements to the Forest Park Neighborhood and the Seacrest Boulevard corridor. The project includes but is not limited to potable water main replacements, reclaimed water main extensions, a wastewater forcemain extension and stormwater system upgrades, including landscape improvements along Seacrest Blvd., exfiltration trench installations, pavement overlay and miscellaneous upgrades to driveway aprons and sidewalks.

After reviewing all proposal in accordance with the evaluation criteria contained in the RFQ, in a public meeting, the evaluation committee scored and ranked the firms and shortlisted: Giannetti Contracting Corporation, Ric-Man International, Inc. and Ric-Man Construction Florida, Inc.

The Part 1 Ranking and Average Scores are as follows:

FIRM	AVERAGE POINTS (MAX. 100)	RANKING
Giannetti Contracting Corp.	85	1
Ric-Man International, Inc.	84	2
Ric-Man Construction Florida, Inc.	78.7	3

In accordance with the process outlined in the RFQ, the Committee agreed by consensus to invite the three highest ranked firms and their teams to participate in oral presentations/interviews.

Subsequent to the presentations/interviews, the evaluation committee independently scored each vendor and in a publicly noticed final ranking meeting held on October 25, 2017, the committee disclosed their scores for the presentations/interviews.

The Final Ranking and Average Scores are as follows:

FIRM	AVERAGE POINTS (MAX. 100)	RANKING
Ric-Man International, Inc.	86.7	1
Giannetti Contracting Corporation	85.3	2
Ric-Man Construction Florida, Inc.	80.3	3

Based upon these scores, the Committee unanimously voted to accept the rankings and recommended by consensus to prepare an agenda item to City Commission recommending approval of these rankings and authorization to proceed in negotiating a Contract for the first phase of the work with the first ranked firm: Ric-Man International, Inc.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

Approval of this request will allow City staff to begin negotiations with the top ranked DB firm to develop a cost for completion of the first phase of the project.
The project will have the following benefits to the project area:

- **Potable Water**
  - To improve water pressure, quantity and quality
  - To replace old and damaged pipelines
  - To improve fire protection by adding more hydrants
- **Wastewater collection**
  - Provide improved transmission capability
  - Provide expanded service requested by Ocean Ridge area
- **Neighborhood Improvements**
  - Install/Replace damaged sidewalks and driveway aprons
  - Provide roadway overlay
- **Stormwater**
  - To reduce nuisance flooding after small storms
  - To help improve water quality by adding surface swales

FISCAL IMPACT: Budgeted
There is no fiscal impact as a result of this approval until a contract for the first phase (along with subsequent phases) has been negotiated with the DB firm, and will be submitted to the Commission for approval. The existing funds are budgeted for this work in the City's 2017/18 CIP.

ALTERNATIVES:
Not approve the recommended contractor as provided and request that a new RFQ for this project be advertised. This would delay the project several months.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Attachment	Notice of Intent/Final Ranking
🗋	Attachment	Sumary of Final Ranking

The City of
Boynton Beach

PROCUREMENT SERVICES
100 E. Boynton Beach Boulevard
P.O. Box 310
Boynton Beach, Florida 33425-0310
561-742-6310
Fax: (561) 742-6316

NOTICE OF INTENT TO NEGOTIATE/AWARD

SOLICITATION NO. **RFQ NO. 037-2821-17/TP**
SOLICITATION TITLE: **CENTRAL SEACREST CORRIDOR UTILITY IMPROVEMENTS – PHASE II (DESIGN/BUILD)**
DATE OF NOTICE: **OCTOBER 26, 2017**

At the Final Ranking meeting of October 25, 2017, the Selection Committee for the above referenced solicitation scored and ranked the shortlisted firms as follows:

RANKING:
1. **RIC-MAN INTERNATIONAL, INC.**
2. **GIANNETTI CONTRACTING CORP.**
3. **RIC-MAN CONSTRUCTION FLORIDA, INC.**

This Intent to Award will be presented to City Commission as a recommendation to approve the Selection Committee Rankings and authorize staff to enter into negotiations with the first ranked firm: RIC-MAN INTERNATIONAL, INC.

This Notice is conditioned upon and subject to the City of Boynton Beach's reservation of rights as contained in the RFQ documents and approval by the City Commission.

In accordance with Section 2-355 of the Palm Beach County Code of Ordinances, the Cone of Silence remains in effect for this solicitation until award, rejection or other action is taken by the applicable award authority to otherwise end the solicitation process.

Submitted by:

Ilyse Triestman, CPPO, CPPB, FCCN
Purchasing Manager

RFQ FOR "CENTRAL SEACREST CORRRIDOR UTILITY IMPROVEMENTS - PHASE II (DESIGN/BUILD)

RFQ No.: 037-2821-17/TP

SUMMARY OF REVIEWERS SCORES - EVALUATION COMMITTEE MEETING (FINAL RANKING) - 10/25/17 at 2:30 PM

		QUALIFICATIONS OF THE FIRM MAX - 20	ASSIGNED STAFF QUAL & EXPER. MAX - 40	PROJECT APPROACH MAX - 30	REFERENCES MAX - 10	TOTALS MAX - 100	RANKING
GIANNETTI CONTRACTING CORP.							
M. LOW		20.00	38.00	26.00	7.00	91.00	**2**
J. PATERNITI		15.00	30.00	23.00	8.00	76.00	
C. ROSCHEK		19.00	38.00	24.00	8.00	89.00	
TOTAL ALL EVALUATORS						**256.00**	
RIC-MAN CONSTRUCTION FLORIDA, INC.							
M. LOW		16.00	32.00	26.00	7.00	81.00	
J. PATERNITI		20.00	20.00	30.00	8.00	78.00	**3**
C. ROSCHEK		14.00	30.00	30.00	8.00	82.00	
TOTAL ALL EVALUATORS						**241.00**	
RIC-MAN INTERNATIONAL, INC.							
M. LOW		19.00	34.00	26.00	8.00	87.00	
J. PATERNITI		10.00	40.00	25.00	8.00	83.00	**1**
C. ROSCHEK		19.00	35.00	27.00	9.00	90.00	
TOTAL ALL EVALUATORS						**260.00**	

Tabulated by: Ilyse Triestman 10/25/17

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Approve the minutes from the Regular City Commission meetings held on September 19, 2017 and October 17, 2017.

EXPLANATION OF REQUEST:
The City Commission met on September 19, 2017 and October 17, 2017, and minutes were prepared from the notes taken at the meetings. The Florida Statutes provide that minutes of all Commission meetings be prepared, approved and maintained in the records of the City of Boynton Beach.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? A record of the actions taken by the City Commission will be maintained as a permanent record.

FISCAL IMPACT: Non-budgeted N/A

ALTERNATIVES: Do not approve the minutes

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Minutes	Commission Minutes 09-19-17
🗋	Minutes	Commission Minutes 10-17-17

MINUTES OF THE REGULAR CITY COMMISSION MEETING HELD ON TUESDAY SEPTEMBER 19, 2017, AT 6:30 P.M. IN COMMISSION CHAMBERS, CITY HALL 100 E. BOYNTON BEACH BOULEVARD, BOYNTON BEACH, FLORIDA

PRESENT:

Steven B. Grant, Mayor
Justin Katz, Vice Mayor
Mack McCray, Commissioner
Christina Romelus, Commissioner
Joe Casello, Commissioner

Lori LaVerriere, City Manager
James Cherof, City Attorney
Judith A. Pyle, City Clerk

1. OPENINGS

A. Call to Order - Mayor Steven B. Grant

Mayor Grant called the meeting to order at 6:36 p.m.

Invocation

Mayor Grant gave the invocation.

Pledge of Allegiance to the Flag

Vice Mayor Katz led the Pledge of Allegiance to the Flag.

ROLL CALL

Judith Pyle, City Clerk, called the roll. A quorum was present.

Agenda Approval:

1. Additions, Deletions, Corrections

Mayor Grant requested a discussion on Future Agenda Item G. He indicated on August 15, 2017, Commissioner Casello requested this item to be placed on the Future Agenda. Mayor Grant stated the item should be removed by the Commission and not by an individual Commissioner.

Commissioner Casello asked if this was a City policy or a procedure. He requested clarification. how does it not take a vote to put it on the agenda; but it takes a vote of the Commission to take it off.

Mayor Grant indicated he wanted transparency. If anyone wants to have a discussion on the item, it cannot be discussed because it violates the Sunshine Law.

Motion

Commissioner Casello moved to remove item G from the Future Agenda, seconded by Commissioner McCray.

Vote

4-1 *(Mayor Grant dissenting)*

Mayor Grant asked for a motion to approve the agenda as amended.

2. Adoption

Motion

Commissioner Casello moved to approve the agenda as amended, seconded by Commissioner McCray.

Vote

Unanimously approved.

2. OTHER

A. **PROPOSED RESOLUTION NO. R17-086** - Ratification by City Commission of the Boynton Beach Community Redevelopment Agency (CRA) annual budget for fiscal year 2017-2018.

Motion

Commissioner McCray moved to approve, seconded by Commissioner Casello.

Vote

Unanimously approved.

B. Conduct Second Public Budget Hearing for FY 2017/2018 Annual Operating Budget. **PROPOSED RESOLUTION NO. R17-087** - Adopt the final millage rate for the General Fund for Fiscal Year 2017-2018.
PROPOSED RESOLUTION NO. R17-088 - Adopt the Final Budget for the General Fund and all other funds for Fiscal Year 2017-2018.

Tim Howard, Assistant City Manager, indicated there were two resolutions before the Commission for approval. One was the final millage rate, the second, for the final budget for the General Fund and all other funds.

Mr. Howard indicated the purpose was to adopt the final millage rate and the final budget for all funds. The total for all funds was $203M. The $83.2M was for the General Fund which makes up 41.2% of all funds. The City's actual tax increase was 6.43%. The State Trim calculations over the roll back rate would be 7.4224%. The average citywide property tax increase was 8.25%. The proposed tax levy was 7.9 mills; these adjustments were based on Commission actions. A recommendation of $118,000 was being requested.

Lori LaVerriere, City Manager, explained that the City of Boynton Beach was still bargaining with Fire and the SEIU unions. Ms. LaVerriere indicated the City has budgeted a 2.5% pay increase for un-represented general employees. Ms. LaVerriere noted that she was unsure if a request for a budget amendment would be needed.

Commissioner Casello inquired about the shortfall. Mr. Howard replied that it reduced the revenue on the revenue fund by $460,000 and it reduced the transfer out of Sanitation into the General Funds by $400,000. Commissioner Casello noted this created a shortage to the General Fund by $400,000. Commissioner Casello asked how the City would cover the shortage. He asked if the City could use the red light camera funds. Mr. Howard stated with the reinstitution of the red light cameras the City was able to move the 3 staff members' personnel cost to the Red light Camera fund, which was $181,000. This freed up and offset part of that $400,000.

Commissioner Casello asked where the $118,000 was coming from. Mr. Howard responded this would be from the reserves which carried over from prior years. The General Fund had a fund balance of $16M of which $8.3M was set aside for emergency reserve. Commissioner Casello noted although it was a minimum amount, the City was dipping into the reserves to balance the budget. He asked about the vote on the sanitation ordinance. Ms. LaVerriere stated she believed that the vote failed on a 3-2.

Commissioner Casello said the City continues to dip into the reserve to balance the budget.

Commissioner Casello asked if Commissioners on the prevailing side of the vote wanted to change their vote, was that possible. He asked if they so desired could they request a reconsideration of the vote.

Mayor Grant stated that could be placed on the agenda. He said the Commission would need to amend the agenda for a reconsideration of the ordinance.

James Cherof, City Attorney, indicated this could be done, but it cannot be at the same meeting. Commissioner Casello requested clarification. He stated even if the budget passes tonight, the item could come up at a later date for reconsideration. Mr. Cherof stated the passage of the budget was not-binding on that issue.

Commissioner McCray stated in regards to the budget, he was not voting for the budget. He was tired of dipping into the City reserves to keep the City going.

Mayor Grant asked for additional comments from the Commission.

Vice Mayor Katz noted that there was a parcel of land that the City owns on Boynton Beach Boulevard. He indicated Habitat for Humanity was interested in acquiring the property. He understands this was not on the agenda, but he would ask not to just give away the property. He would urge the Commission not to pursue giving the property to Habitat for Humanity. Commissioner Casello indicated that he understands that 2 acres of land was on Nichols Drive. The City would like that as part of the consideration. Mayor Grant stated the City was not receiving any revenue from the property. Ms. LaVerriere asked if this item needed to be placed on the Future Agenda.

Mayor Grant opened for public comment.

Susan Oyer, 140 SE 27 Way, indicated she was all for this. This was a great idea. She hated that money was being taken out of the City Budget. The City needs to purchase another truck. Ms. Oyer stated that the only problem she has was that the trash does not have a schedule.

Cindy Falco-DiCorrado, 316 NW 1st Avenue, stated that her trash has not been picked up for three weeks. After three weeks the recycling was picked up. This was prior to the hurricane. To give an increase for a service that was not received was very frustrating. She was against raising money for waste management.

Commissioner Casello asked if she called the City and if so, to whom did she speak. Ms. Falco-DiCorrado indicated that her neighbor called many times. Commissioner Casello asked about the City of Boynton Beach's response. Ms. Falco-DiCorrido was told by her neighbor the City was coming. She indicated they never showed up. Her neighbor stated it was because they were not in an affluent area, so they were left behind. Commissioner McCray indicated that he heard the same thing. Commissioner Casello stated for the record, that he does not believe that anyone on the City of Boynton Beach staff would say such a thing. The department heads or the staff would never say anything like that. Commissioner Romelus stated she would echo that sentiment as well. She stated if there are some problems with staff please email Jeff Livergood. She continued to say Mr. Livergood takes his job very seriously. The City of Boynton Beach does not place a rank based on affluence.

Commissioner McCray asked the City Manager to follow up on what was being said. He indicated that the City has a problem with customer service.

Mayor Grant indicated the property that Habitat for Humanity was interested in was currently not generating any type of revenue. If Habitat for Humanity expressed an interest it would begin to generate revenue from the homes being built.

Mayor Grant indicated the City has been using Sanitation funds for years, and Sanitation has not been able to keep up with the internal needs of the fleet.

Attorney Cherof read PROPOSED RESOLUTION NO. R17-087 - Adopt the final millage rate for the General Fund for Fiscal Year 2017-2018.

Mayor Grant asked for a motion to approve the final millage rate.

Motion

Commissioner Casello moved to approve, seconded by Commissioner Romelus.

Vote

Unanimously approved.

Attorney Cherof read PROPOSED RESOLUTION NO. R17-088 - Adopt the Final Budget for the General Fund and all other funds for Fiscal Year 2017-2018.

Mayor Grant asked for a motion.

Motion

Commissioner Casello moved to approve, seconded by Vice Mayor Katz.

Vote

4-1 *(Commissioner McCray dissenting)*

C. Informational items by Members of the City Commission

Vice Mayor Katz stated he had nothing to report.

Commissioner McCray asked if the City could get the word out on how to separate garbage for pick-up.

Mayor Grant noted he was on national television, (MSNBC). On the 16th he attended the POW and MIA remembrance at Veterans Park. Also attended the County sponsored barbeque with Florida Representative Mack Bernard and County Firemen. Received comments on how the Public Works Department contacts residents. Mayor Grant suggested a volunteer list of emails and telephone numbers from City residents. . Attended the Historical Society of Boynton Beach and a talk was given from a Farmers Perspective.

Commissioner Romelus said hopefully everyone was safe after the storm. Introduced the Mayor of Saint-Marc, Odelair Pierre, also the President of the Mayors' Association of Haiti.

Commissioner Casello stated that this was his first hurricane. He had the pleasure to spend some time at the EOC and thanked the staff for the great sacrifices. On Saturday he was at the Green Acres Public Library. He spent some time with State Representative Lori Berman and Senator Jeff Clemens regarding FEMA disaster assistance. Commissioner Casello hoped that the City could have an area in Boynton Beach for FEMA sign up. Commissioner Casello read a public notice from the Golf Course relating to the new greens and reopening of the courses.

Mayor Grant announced a Hurricane Irma Drive. Saturday, September 23, was the 1st Boynton Beach Art District event. That event was from 6-10 pm, there would be food, music and the art walk.

Commissioner McCray stated he was concerned that the Boynton Beach Wildcats are losing revenue to the food trucks parked outside of the park. He requested the City Manager provide any policies relating to food trucks and the sale of food items at local events.

3. ANNOUNCEMENTS, COMMUNITY AND SPECIAL EVENTS AND PRESENTATIONS.

A. Announcement of recent national, state and local awards received for the City's marketing and program initiatives.

Mary DeGraffenreidt, Recreation Parks Department Events and Program Manager and Eleanor Krusell, Public Communication Manager, announced that the City recently received 10 national, state and local awards for marketing and program initiatives. The City received 6 awards from the Florida Festival of Events Association. The Florida Festivals & Events Association (FFEA) supports event industry professionals through professional development, networking and educational opportunities. Since 1994, FFEA has grown to represent 500 members in the Special Events Industry in Florida including major festivals, fairs, non-profit organizations, Chambers of Commerce, tourism and government agencies.

Membership represents over 3,500 events with an estimated buying power of $198 million per year. Ms. DeGraffenreidt indicated there were over 400 entries. Awards were received for The Yappy Happy Hour, Police K9 Competition, Photo category, Recreation and Parks Volunteer program. Also received 3rd place for City's annual report.

Eleanor Krusell, Public Communication Manager, indicated the City was notified last week they would receive a 2nd place award for the printed publication for its annual report. There were over 700 entries submitted and judged.

Ms. DeGraffenreidt indicated she was proud to represent the City which prides itself on quality services.

Mayor Grant stated that he wanted to congratulate staff for all of the work with updating the website with information regarding Hurricane Irma.

Commissioner McCray thanked both Ms. Krusell and Ms. DeGraffenreidt.

B. Proclaim October 5, 2017 as Energy Efficiency Day in the City of Boynton Beach.

Mayor Grant read and presented the Proclamation to Rebecca Harvey.

Rebecca Harvey, Sustainability Coordinator, accepted the proclamation. She was pleased residents are using less energy to provide the same services, by making improvement including more efficient appliances. She stated the cost and upgrades usually are recouped quickly. She stated this was an attractive first step, not only to reduce household and business cost, but to reduce carbon emissions. The City has a Climate Action Plan, which establishes the goals and strategies to reduce greenhouse gases and emissions. Through energy efficiency combined with other strategies, the City is meeting its goal. The City plan was to observe the Energy Efficiency Day through a social media campaign about the national organization with a light bulb challenge for the residents and businesses. She indicated that it also focuses in on the Energy Edge Rebate Program. This program uses revenue collected in the Green Building Program fund to supply rebates to homes. Noted that since the inception of the program the City of Boynton Beach has provided 49 rebates totaling more than $44,000.

Commissioner McCray asked if this information would be on the City's website.

4. PUBLIC AUDIENCE INDIVIDUAL SPEAKERS W ILL BE LIMITED TO 3 MINUTE PRESENTATIONS (at the discretion of the Chair, this 3 minute allowance may need to be adjusted depending on the level of business coming before the City Commission)

Susan Oyer, 140 SE 27 Way, inquired if the City of Boynton Beach participated in CERT (Community Emergency Response Team).

Ms. LaVerriere indicated that the City has a very strong program administered by the Fire Department. The Boynton Beach CERT has upcoming training. Ms. Oyer indicated other Cities are not aware of the City of Boynton Beach program. Mayor Grant requested that information be placed on social media, letting the residents know there was new training coming up.

Ms. Oyer noted the City does not have the City Seal behind the dais. Mayor Grant indicated that Mr. Groff will get a new seal.

She understood there was a tree ordinance. She asked if this ordinance could be enforced? The City needed to do something about the tree problem. There were all types of trees everywhere. Some people were grandfathered in. This has become a problem and maybe we should begin enforcing the policy, not be allowing residents to plant trees under the lines.

Cindy Falco-DiCorrado, 316 NW 1 Ave, wanted to make it known that on Searcrest there was an accident. She indicated 911 was called. Why did it take 20 minutes and two phone calls to get the police to the accident? She indicated the police station was a block away

Mayor Grant stated seeing no one else coming forward, public comment was closed.

5. ADMINISTRATIVE

A. Appoint eligible members of the community to serve in vacant positions on City advisory boards. The following Regular (Reg) and Alternate (Alt) Student (Stu) and Nonvoting Stu (N/V Stu) openings exist:

Arts Commission: 2 Alts
Building Board of Adjustments & Appeals: 3 Regs and 2 Alts
Employee Pension Board: 1 Reg
Library Bd: 1 Alt
Senior Advisory Bd: 1 Alt

Mayor Grant stated that no applications were received.

6. CONSENT AGENDA

Matters in this section of the Agenda are proposed and recommended by the City Manager for "Consent Agenda" approval of the action indicated in each item, with all of the accompanying material to become a part of the Public Record and subject to staff comments

A. **PROPROSED RESOLUTION NO. R17- 089** - Authorize the Mayor to sign the application and agreement for Library State Aid to Public Libraries Grant for FY2017-2018.

B. Approve utilizing the Palm Beach County School Board contract #16C-7T with Stokes Mechanical Contractor, Inc. of Lake Worth, FL to replace coils and repair (2) two carrier package units for the West Water Treatment Plant in the amount of $48,542. PBC School Board procurement process satisfies the City's competitive bid requirements.

C. Approve funding in the amount not to exceed $12,000 for a Commercial Rent Reimbursement Grant to South Florida Stairs, Inc., 2901 Commerce Drive NW, Boynton Beach, FL 33426.

D. Accept the written report to the Commission for purchases over $10,000 for the month of August 2017.

E. Legal Expenses - August 2017 - Information at the request of the City Commission. No action required.

Commissioner Casello stated he asked to have the invoices published on the Consent Agenda. He was going through the invoices. There was an invoice for $1,790.50. He explained the hourly charges were $160 and $140. The City of Boynton Beach was being charged a parking fee of $1.

Mayor Grant asked for a motion to approve.

Motion

Commissioner McCray moved to approve, seconded by Commissioner Casello.

Vote

Unanimously approved.

F. Approve the minutes from the Special City Commission Workshop - Update on Town Square held on August 21, 2017.

Mayor Grant requested a motion to approve the Consent Agenda.

Motion

Commissioner McCray moved to approve the Consent Agenda, seconded by Commissioner Casello.

Vote

Unanimously approved.

7. BIDS AND PURCHASES OVER $100,000

A. Approve issuing purchase orders for the purpose of rehabilitating sidewalks in 11 separate projects that span 8 communities. Cobra Construction, Inc. of Boynton Beach in the amount of $136,608, plus a 10% contingency in the amount of $13,700 for a total cost of $150,308 and; The Paving Lady, Inc. of Boynton Beach in the amount of $18,000, plus a 10% contingency in the amount of $1,800 for a total cost of $19,800. This sidewalk project was divided into 11 projects in order to allow local businesses within Boynton Beach to quote on individual projects and to allow the city to award individual projects as opposed to issuing a formal bid for all projects together.

Commissioner McCray thanked staff for putting this item on the agenda.

Motion

Commissioner McCray moved for a motion to approve, seconded by Commissioner Romelus.

Commissioner Romelus inquired if this was part of the Building Wealth in the Community program. Ms. LaVerriere replied that this was the first step. She indicated that this would normally be a very large project. It has been broken down into 11 projects. This was the very first step in the changes to the City's procurement process.

Commissioner Romelus informed the audience that the two businesses that have been awarded a contract were Cobra Construction of Boynton Beach and the Paving Lady of Boynton Beach. Both these businesses are from Boynton Beach.

Ms. LaVerriere stated that sometimes there was a misnomer that local may cost a little more. She stated that the local businesses had the lowest bid.

Vote

Unanimously approved.

8. COMMUNITY STANDARDS and LEGAL SETTLEMENTS - None

9. PUBLIC HEARING

7 P.M. OR AS SOON THEREAFTER AS THE AGENDA PERMITS
The City Commission will conduct these public hearings in its dual capacity as Local Planning Agency and City Commission.

A. **PROPOSED ORDINANCE NO. 17-023 - SECOND READING - PUBLIC HEARING -** Approve LDR Amendments Group 3/CRA Plan Implementation (CDRV 17-007) – Amending the LAND DEVELOPMENT REGULATIONS, Chapters 1, 3, and 4 to continue implementing Community Redevelopment Plan recommendations with changes in the Future Land Use classification scheme, and establishment of the new R-4, Multi-family Residential Zoning District including amendments and additions to definitions, and use and lot standards. City initiated.

Attorney Cherof read by title only PROPOSED ORDINANCE NO. 17-023 on SECOND READING PUBLIC HEARING.

Mike Rumpf, Planning and Zoning Director, indicated this was another installment to the proposed amendment to the Land Development Regulations (LDR) as required by the CRA Plan. Mr. Rumpf stated that most of the changes were for the titling within our Land Use and Zoning scheme. A more complete update would be available soon. This would be an all-inclusive Land Development Regulation. There are a couple of tables that were presented, which were taken directly from the CRA plan.

Mr. Rumpf continued with the Summary of proposed amendments; the Moderate Density Residential Land Use classification was being eliminated. The zoning districts underneath it are being merged under the Low Density Residential classification. The Medium Density Residential Land Use classification density was being increased from 10 dwelling units per acre to 11 dwelling units per acre, because of the R-3 district which would correspond with the High Density Residential Land Use (HDRLU) being moved underneath the HDR being repurposed to correspond to the new density group of 15 du/acre. This splits the difference between what the City has as a high in a conventional group of 10 or 11 du/acre, and the 20 du/acre allowed under the Special High Land Use classification. He pointed out the new R-4 zoning district would fall under new High Density Residential Density.

Mr. Rumpf indicated there were many changes to the titles. He stated currently the City use for the Mixed Use Low 1, Mixed Use Low 2, Mixed Use Low 3, and Mixed Use Core. These are being renamed to Mixed Use Low, Mixed Use Medium and Mixed Use

High. Also one of those has a density adjustment of 40 du/acre to 50 du per acre. Some are splitting between the 20 du/acre on the low end and 80 du/acre on the high end.

He noted there are no pending development applications for the new R-4 zoning. This was from the CRA Plan there was an area the High Density Residential new (HDR), which would have the R-4 correspond with it would be recommended in the vicinity in Heart of Boynton area, this would not be the only option.

He continued to say the Workforce Housing Ordinance has been updated. There are some updates to the LDR with references to the new CRA Plan, edits to add clarity and eliminate redundancy. Mr. Rumpf noted the sections affected was the Zoning District and titles for the definitions, FLU and the Zoning District relationships, Building and site regulations and the R-4.

Commissioner Casello indicated that the City just moved some numbers around. Mr. Rumpf replied that there was nothing hidden. Commissioner Casello stated for discussion purposes it needs to be very simple.

Mayor Grant had a question on Table 3-1, would the townhomes fall under R-3 zoning. Mr. Rumpf stated that there may be some exceptions in the Code. The townhomes fall under the multifamily classification.

Mayor Grant inquired as to the building heights, would R-4 and R-1 be the same. Mr. Rumpf indicated the R-1 was in the single family district which has a maximum height of 30 feet. R-3 Multifamily classification has a maximum height of 45 feet. In most respect there was a mirror of the R-3.

Mayor Grant inquired for the duplex when the lot frontage was 75 feet; he asked if this was for each unit or the total. Mr. Rumpf stated that it was for the total. Mayor Grant asked if all multifamily units must have 100 feet footage, for the entire unit. Mr. Rumpf responded that multifamily was a project. Mayor Grant asked if a developer was building a 650 square feet building, could the square footage be reduced if it was in the R-4 district. Mr. Rumpf indicated not without an amendment.

Mayor Grant asked if there was any downside in reducing the minimum in the R-4 district. Mr. Rumpf said there was a trend to downsizing. They would see it in the multifamily and the Mixed Use districts. There are minimum size limits in the Mixed Use district. Mr. Rumpf indicated they would take a closer look, during the audit.

Mayor Grant opened the issue up to public comment.

Susan Oyer, 140 SE 47 Way, indicated if this goes through, her family would potentially make money. She was personally against this. She asked the Commission to look at the long term impact for the potential misuse of the new R-4 zoning; it was already

happening in Delray. She asked to pull the R-4 out of it. Who wants to wake up next to a four story apartment building? It would hurt her property values.

Commissioner Romelus asked for an area in Delray that this was happening. Ms. Oyer stated that she had no idea. She can only assume that the construction has started and not yet completed. Commissioner Romelus asked if Ms. Oyer could give her an area in Delray.

Mayor Grant inquired that he owned a 1/3 of an acre across the street, which would be in the HDR zoning area. He asked could that 1/3 of an acre potentially have a four story building on that parcel. Mr. Rumpf stated given the conviction and fear that was heard from the last speaker, regarding potential misuse, he stated that there was no correlation between what was being proposed in Delray Beach and Boynton Beach. Mr. Rumpf stated the City was not purposing the elimination of the zoning review criteria. He stated there still a due process. He said there would still would propose anything to be reviewed against the review criteria and the zoning regulations, such as compatibility issues, as well as density issues. He said an applicant can say that it was recommended in the CRA Plan; it would still come before Staff, the Board and the City Commission as an application. The answer was difficult. Anyone can petition for it, but it would be reviewed against the CRA plan, the Comprehensive plan and the zoning criteria.

Mayor Grant said that he see that the R-1 maximum height was 30 feet, whereas the R-2 was 25 feet, so you don't have a duplex where there is higher than 25 feet. Mayor Grant asked if the parcel of land he spoke about earlier had 100 square feet frontage, could a potential four units building have a height of 45 feet. He also asked if this was currently allowed. Mr. Rumpf stated they could petition for the rezoning, and a Land Use reclassification. Mayor Grant asked if this was not a permitted use. Mr. Rumpf indicated this was a residential project, if the project met all of the criteria of the R-4, it would be permitted. The entry point is the rezoning and the Land Use classification process, which gives the City the highest scrutiny in reviewing. he continued to say this was not a planned district it was a rezoning. Anything that would be allowed in it would be reviewed as a quasi-judicial process, consistent with the LDR.

Mayor Grant asked if a one story house next to a four story multifamily house, which is currently in the process, because this would be an older section of the community, what would be the distant that was allowed. Mr. Rumpf stated that the R-4 do not have any type of little twist, he stated they would be allowed. Mayor Grant stated that they would be allowed to build up to the four stories. Mr. Rumpf stated if it was zoned R-4, what would be the recommendation. Mr. Rumpf stated the Future Land Use zoning would be High Density Residential.

Mayor Grant stated that was part of the Future Land Use (FLU) it would not necessarily going to be zoned to R-4. He inquired if someone wanted to make it into a duplex or an R-3, is that something that would be allowed if it was zoned R-4. Mayor Grant asked if

this was currently zoned as High Density Residential (HDR). Mr. Rumpf replied that was the recommendation. Mayor Grant noted that it was currently zoned mostly R-1. Mr. Rumpf replied the current zoning was R-1 or R-2. Mayor Grant asked if it can go from R-1 to R-2 if the Future Land Use is R-4. Mr. Rumpf replied that R-4 was zoning, so the Future Land Use would be HDR, if it was HDR in R-4 the applicant could build town homes underneath it as well. Mayor Grant asked if it is in the FLU is HDR or the new R-4 and it was currently zoned as R-1 or R-2, can the applicant get the R-2 or the R-3 zoning, or is it only from R-1 to R-4. Mr. Rumpf replied staff frequently was confronted with question on which properties can be developed as. The first thing that is done was to look at the CRA Plan, if it was within the CRA area, to see what the recommendations are. There may be strong recommendation from staff, it is either you are in compliance and staff would support or not in compliance then staff would not support. Mayor Grant stated that he would be voting against this, if you could only go to R-4 from R-1 that is currently zoned.

Mr. Rumpf indicated just because it was recommended does not mean that it would be put into place. The City would need to go back and revisit. This was the recommended Land Use pattern. If someone came in with something that was against the vision of the CRA plan, they Commission could vote against it.

Mayor Grant stated allowing the possibility, does not automatically allow R-4 being built.

Commissioner Romelus asked if it was possible to place a conditional use on a property. She explained if a developer wanted to use the R-4 zoning it must be contiguous with what was already there. She continued to say she did not want a developer to come in and buy up pockets of land and apply for an R-4 zoning designation.

Mr. Rumpf indicated that that would not be the recommendation. The question becomes how long the Land Use continue, when you are trying to redevelop the area. That would prevent the City from implementing any plan. The CRA had the same issue, to prevent the incapability, if they do not move out that last property. It could be changed when the price is right or the property was passed on to an heir.

Commissioner Romelus noted if someone accumulates property, how can the City prevents the person or company from building a condo or an apartment building in the middle of single family homes. Mr. Rumpf explained the Commission has the right to review criteria. The criterion was very stringent. Commissioner Romelus surmised when the developers have met all criteria, they could build. Mr. Rumpf cautioned if their positioning was off, then the project would be incompatible. Commissioner Romelus asked what can be done if the positioning was off. Mr. Rump noted if there are criteria that can be used to deny permits, then the permit can be denied.

Mayor Grant indicated the HDR is in the Cottage district.

Mayor Grant asked for a motion to approve Ordinance 17-023.

Motion

Vice Mayor Katz moved for a motion to approve, seconded by Commissioner McCray.

Vote

City Clerk Pyle call the roll, the vote was 5-0.

B. (1) **PROPOSED ORDINANCE NO. 17-024 - SECOND READING - PUBLIC HEARING -** Approve The Villages at East Ocean Avenue - North Future Land Use Map Amendment (LUAR 17-002) from Local Retail Commercial (LRC) to Mised Use High (MXH). Applicant: Arthur B. D'Almeida

Attorney Cherof read by title only PROPOSED ORDINANCE NO. 17-024 - SECOND READING PUBLIC HEARING .

Bradley Miller, Miller Land Planning, requested to present all items at once. He also stated the Items D & F should be removed from the table.

Mayor Grant advised he was ok to have these presented at the same time. Attorney Cherof stated that they would require separate discussions.

Mayor Grant asked for a motion to remove items D & F from the table.

Motion

Commissioner McCray motion to remove item D & F from the table, seconded by Vice Mayor Katz.

Vote

Unanimously approved.

Mr. Miller indicated this project has gone through the review process. The process was started about two years ago. He stated through the CRA redevelopment plan process, this has been broken down into two different projects. He continued that there was a Land Use amendment, Abandonment of rights of way and alleys. These are old paper alleys. These are housekeeping issues.

The redevelopment plan for the north parcel has this area as Mixed Use High. The Mixed Use High allows density of 100 units per acre and a maximum height of 150 feet. The southern parcel was designated as Mixed Use Medium. It corresponds with the Town Square property. In the application it was 50 units per acre, with a density bonus

for TOD. The train station would be located in the center of the TOD, allowing for the density bonus.

(Commissioner Casello left the dais at 7:56 pm return 8:00 pm, Commissioner Romelus left dais at 8:00 pm returned at 8:04 pm)

Mr. Miller indicated that he would begin with item B and D, the abandonment covers both. We are requesting a Land Use amendment to go from local retail commercial to Mixed Use High, follows the CRA development plan and recommendations. He wants a rezoning from C-3 and C-2 to mixed use core. This was a mixed use project. From a residential point, it serves that market for that space, the project access, the access point was on Third Street was on the west side of the property and the railroad would be on the east side. The third street area was chosen street rather than using the Boynton Beach area. The pink arrows are the pedestrian lead to allow the resident or visitor to enter or exit the property. He continued along the road way stating there was a connection. He stated that they have pedestrian zones, and retail space. On the east side of the property it was fenced, this was for safety purposes. He stated there are 79 trees required, of which 72 are shade trees. He showed the ground floor footprint. There was a corner accessible, the yellow was accessibility units, the darker blue areas was the recreational area, the club house, the spinning room, fitness area, it would be a great space for the residents to use. It fronts onto Boynton Beach Boulevard. The commercial space was just less than 4000 square feet; a little more than 8000 feet was along Ocean Avenue. The gray area was the parking garage. There are about 644 parking spaces within the garage.

Commissioner Casello inquired about the commercial space on Boynton Beach Boulevard and asked if there would be some on/off-street parking. Mr. Miller indicated there are three on street parking spaces along Boynton Beach Boulevard. There are 10 or 11 spaces on 3rd Street; also there was parallel parking along Ocean Avenue. He stated when you get into the upper residential floors there was a diversity from studios to 3 bedroom apartment. The elevations are looking from Ocean Avenue. The tallest spot would be on Ocean Avenue.

Commissioner Casello asked if that was commercial space on the second floor. Mr. Miller confirmed. Once it steps backs it goes to about 63 feet. This was the area of commercial space along Ocean Avenue. All units have balcony or patios.

Commissioner Casello asked if the walkway was going to be lighted. Mr. Miller confirmed it would be lighted. In the nighttime hours it maybe gated off. He indicated the City staff requested that the gates be removed.

Commissioner Romelus asked if the walkway was concrete. Mr. Miller replied that it was crushed shells and landscaped.

Mr. Miller pointed out the there was a medium residential area that would face the tracks. In the previous meeting a few questions came up regarding retail space as well as the size along the Ocean Avenue.

Mayor Grant inquired if there was a difference with live/work or work/live? Mr. Miller stated that there was no difference by Boynton Beach Code.

Commissioner McCray noted when he met with everyone he was in agreement with the 79 trees. After the hurricane; he saw so many trees down, that he wanted to place less trees. He believed that they were coconut trees. Mr. Miller indicated that the type of palms being placed were Sabal Palms and Sylvester Palms. Commissioner McCray stated that he saw coconuts in the roadway after the hurricane.

Dave Volker, 601 North Congress Avenue, explained that the landscape would have Cathedral Live Oak on 3rd and Ocean. The corners of the plaza would have some Sylvester Date Palms. He indicated the plaza off of 3rd would have some Foxtail Palms.

Commissioner McCray inquired how long does it take for these plants to take root.

Mr. Volker stated that Live Oak were the toughest trees.

Mayor Grant indicated that it does have to do with the maintenance of the tree. He continued to say that the trees needed to be pruned before June or July, before the hurricane season.

Mr. Volker reported what was planned to be placed in the ground was the Cathedral Live Oak. They grow more vertical, you will not get the canopy effect.

Commissioner Casello asked about the height of the trees. Mr. Volker indicated they would grow between 35-40 feet.

Mr. Miller indicated he had some exhibits for the live/work units. The commercial space was on the ground level. Internally there were stair cases that lead to the residential area above. The way in which the City Code read now, the residential must have a business tax receipt on the ground level. What they envisioned was an artist or other professionals. Our suggestion would be to convert that commercial space to a live/work space.

Mayor Grant wanted the number of parking spaces. Mr. Miller stated that there are 644 parking spaces in the garage.

Mr. Miller said the first floor was open to the public.

Mayor Grant asked if there would be a short time parking for delivery or Uber. Mr. Miller stated that there would be a space in front of the office.

Commissioner Casello asked if the businesses would have some type of valet services. Mr. Miller indicated that it could have some type of valet situation. We are hoping for that type of growth. He feels that the space would be adequate for parking. Commissioner Casello asked about the three spaces in front of the business, did he feel that would be adequate parking. Mr. Miller noted there was parking on the street as well as in the garage.

Commissioner Casello asked if business customers would have a time limit on parking. Mr. Miller advised no decision has been made at this time. It would be controlled with management.

Mr. Miller informed the Commission he was ready to address items B and D. He was ready to proceed to the southern parcel.

Mayor Grant opened the issue for public comments.

Cindy Falco DiCorrado, 316 NW 1 Avenue, stated most of the community seem to like the Mediterranean contemporary look. She asked this design flow with the presented style. She understands that on the east side it would go lower, with the recessed backing. With the new downtown area, would there be continuality. Mr. Miller stated that the City requested a Coastal Village theme.

Juan Caycedo, Architect, 14 SE 4 Street, indicated the idea was to create a village on Ocean Avenue, the scale will be maintained. The building would be articulated. Ms. Falco-DiCorrado stated the building that she was looking at looked very contemporary. Commissioner Romelus stated that she believes what she was referring to was Town Square. Ms. Falco-DiCorrado stated this was shifted. She said it does not feel a part of the whole project. Mr. Caycedo noted that with the creation of the City of Boynton Beach new downtown area, it would fit in very nicely. He indicated that the building was very traditional, but would fit in with the Town Square project.

Susan Oyer, 140 SE 27 Way, wanted to know what happened to former Commissioner Fitzpatrick's questions about train access. He asked if there would be some type of adaption from Boynton Beach Boulevard. If the City was pushing for the train station, they should create access. She suggested that privately held condo buildings on the corner of Ocean and third, the City could possibly purchase those units from the developers, and then make those into green space. What was the status on the paints, if we are this great green City, why are we doing color and paint wise? Are we doing solar panels on the roof? There was not enough handicapped parking.

The bulk of the population was elderly. They would need additional handicap spacing. Ms. Oyer continued and asked if the City would be adding any charging units/stations to the garage. She stated this was a great plan.

(Commission McCray left dais 8:38 pm)

Mr. Miller stated that the handicapped parking space was a federally regulated program in which the developer complies with all regulations. The condo building and the pocket park, there are two other property owners, in addition with the D'Almeda's, there was another owner of a unit. Mr. Miller stated his client was open to discussion regarding the sale of the condo units. Regarding the train accesses were across the railroad crossing. He indicated there were some safety issues. The FEC has placed fences for safety purposes.

Ms. Oyer asked if the parking garage side would be open to pedestrians to walk across the tracks. Mr. Miller indicated that it would be closed.

Mayor Grant asked if there was a cover. Mr. Miller indicated yes.

(*Commissioner McCray returned 8:43 pm*)

Ms. Oyer asked if the developer was going to use reflective paints. Mr. Caycedo indicated that paints have not been chosen. The developer indicated that they have not looked into the solar panels on the roof. The market was really calling for the electric stations for cars. He indicated that this was a market driven response.

Commissioner Casello said that in conjunction with Town Square, would the Village be tied into that. Mr. Miller replied that it would benefit the project to use the chiller plant. There are plans to plug into the chiller.

Commissioner Romelus asked if there were any design changes needed to work along with that energy system. Mr. Caycedo indicated they would need to have more input from the staff, of what was being designed. Hopefully that would be in place before the building was completed.

Colin Groff, Assistant City Manager, stated the City had not met with them as of yet. He stated they will get with them within the next week. He noted the City can provide the services, but they needed to receive the approval first. The project could move forward with hooking up to the chiller.

Commissioner Casello asked if this goes through, when the shovel in the ground, will be ready to break ground. Mr. Miller remarked his client has been waiting for two years.

Vice Mayor Katz inquired if the City entered into the agreement with the new power system for properties outside of the City limits, how the City make sure that the language is in the agreement that the savings are passed on to the residents. Mr. Groff indicated the City was working on that now. In rental units, it was difficult to say. When residential units are done, it could be a single bill to the owner and they put it into the rent. They can use a sub-meter. What was happening now, the City was building a rate structure and plan. The idea was to bring the cost to them that would be a little bit less.

Mr. Miller stated that in summary on the North parcel, Land Use change, there are two changes with converting a retail space to live/work space along Boynton Beach Boulevard which would require a condition of approval, as well as the modification to expand the plaza area on Ocean Avenue, which would require a condition of approval.

Mayor Grant asked for a motion to approve Ordinance 17-024.

Attorney Cherof read PROPOSED ORDINANCE NO. 17-024 - SECOND READING - PUBLIC HEARING – by title only.

Motion

Commissioner McCray moved to approve, seconded by Commissioner Romelus.

Vote

City Clerk Pyle called the roll. The vote was 5-0.

(2) **PROPOSED ORDINANCE NO. 17-025 - SECOND READING - PUBLIC HEARING -** Approve the Villages at East Ocean Avenue - North Rezoning (LUAR 17-002) from C-2 Neighborhood Commercial and C-3 Community Commercial to MU-C, Mixed Use Core District with a proposed site plan for 336 multi-family units and 12,257 square feet of commercial space. Applicant: Arthur B. D'Almeida

Attorney Cherof read PROPOSED ORDINANCE NO. 17-025 - SECOND READING - PUBLIC HEARING – by title only.

Mayor Grant asked for a motion to approve Ordinance 17-025.

Motion

Commissioner McCray moved to approved, seconded by Commissioner Romelus.

Vote

City Clerk Pyle called the roll. The vote was 5-0.

C. **PROPOSED ORDINANCE NO. 17-026 - SECOND READING - PUBLIC HEARING -** Approve request for abandonment of a portion of rights-of-way (ABAN 17-002 through ABAN 17- 006) consisting mostly of unimproved streets and alleys between NE/SE 3rd Street and the FEC Railroad, from Boynton Beach Boulevard south to SE 1st Avenue, in conjunction with request for major site plan modification approval of the Villages at East Ocean mixed use project. Applicant: Arthur B. D'Almeida.

Attorney Cherof read PROPOSED ORDINANCE NO. 17-026 - SECOND READING - PUBLIC HEARING - by title only.

Mayor Grant stated that he spoke with Andrew Mack, Building Director, we are not giving the property directly to the Villages of Boynton the City will be giving the property to the property owners. Because of the development that was going through, they are in charge of paying for all of the utilities underneath. The City of Boynton Beach is going to get improved with all the utilities underground as well as the value of the property that was above.

Mayor Grant asked for a motion to approve Ordinance 17-026

Motion

Commissioner Romelus moved to approve, seconded by Commissioner Casello.

Vote

City Clerk Pyle called the roll. The vote was 5-0.

D. Approve The Villages at East Ocean Avenue - North Major Site Plan Modification (MSPM 17- 003) request for a mixed-use development consisting of an eight (8)-story building with 336 dwelling units, commercial space, and associated recreational amenities and parking on a 3.379 acre site. Applicant: Arthur D'Almeida.

Mayor Grant asked for a motion to approve with the additional request with the 400 square feet and the live/work on the retain option on Boynton Beach Boulevard.

Motion

Commissioner McCray moved to approve, seconded the motion with the conditions of approval by Commissioner Romelus.

Vote

City Clerk Pyle called the roll. The vote was 5-0.

Mayor Grant stated he would like to place those two additional requests, of adding the extra plaza space of 400 square feet and adding the live/work on the retail option along Boynton Beach Boulevard.

Mike Rumpf stated staff supports the applicant expanding eastward on Ocean Avenue, that was consistent with the regulations. However, on Boynton Beach Boulevard staff does not see a live/work unit in compliance with the commercial requirement on

Boynton Beach Boulevard. Mr. Rumpf indicated that would require some type of relief, which staff would not recommend. The other option would be some amendment to the regulations. This can be done if the Commissioner would prefer. This may be challenging to write in such a way that it does not have a ripple effect to deteriorate the vision in the main corridor downtown.

Commissioner Casello asked what the difference was if someone was commercial space downstairs and lives above it. Why was this a big deal?

Mr. Rumpf replied the applicant was speaking about a destination type use. A client knowing where they are going does not contribute as a destination type use. The live/work unit will be very small. There are restrictions in the live/work units; there are regulations on the parking and the size.

Commissioner Casello stated that if history says anything, the City of Boynton Beach was setting the project up for failure. There are only three parking spaces. Most people want to park near the front door of a business. He said they are not going to go around the building to park. He indicated this would be best as a commercial space.

Mayor Grant indicated with retail we are asking for minimum wage to man the cashier. With the live/work you can have the higher end professional use for office space. The City has a lot of commercial space, because we are moving into mixed use.

Commissioner Romelus's main concern was the railroad track. She asked who would stop on the back of the building to get coffee. She indicated her preference would be live/work.

Mr. Rumpf wanted to explain staff's rationale. Staff has seen the mistakes that have been made. What they wanted was to be visionary. There needs to be widening of the streets, and there was not enough pedestrian space. Mr. Rumpf continued to say that in Delray if you drive along Atlantic Avenue, it was very difficult to find parking. The City does not what to have that type of parking problem.

Commissioner Romelus noted she hears and understands, when speaking about intensity and pedestrian traffic, she envisions Ocean Avenue being that hub. On Boynton Beach Boulevard, regardless of how wide the streets are, the speed limit would be 35 mile per hour.

Vice Mayor Katz asked if this would set a precedent for future development on Boynton Beach Boulevard. They can request non-commercial but, put the live/work units only.

Mr. Rumpf stated that it could be challenging. Staff are reviewing Town Square now and applying those same types of standards. We are asking for retail, closet space on Ocean Avenue and retail present on Boynton Beach Boulevard.

Commissioner Romelus stated that regulations remain the same, we do not change regulations. This was just a conditional use agreement. It does not apply here. Mr. Rumpf indicated the current regulations state commercial present on the arterial road ways, which are Boynton Beach Boulevard, Federal and Ocean Avenue. Those three corridors are very specific in calling out commercial use. Commissioner Romelus said she would still say keep that in place and put in a conditional agreement or conditional use. Mr. Rumpf indicated that would be in conflict with the regulations the Commission adopted. Commissioner Romelus understood that was what conditional agreements are for. Mr. Rumpf stated that may be a developer's agreement.

Mr. Miller indicated that in the Code for live/work, this provision of having commercial on the ground level. In the live/work regulations there are two sections, one for the suburban mix use, like Renaissance Commons and they are all commercial uses. In the mix use urban area, it just says any permitted uses in the zoning district. Mr. Miller indicated there can be retail use there. It was like any other shopping center. The live/work satisfies both.

Vice Mayor Katz stated that he does not have any strong feelings. If you go commercial and it does not work out. It could easily be converted into live/work. The odds are it would never become commercial. His concern was that Boynton Beach Boulevard was supposed to be a commercial road way. It was not enough parking unless there was a parking lot. It would be setting precedence. It would appeal to professionals. He could see the area not becoming true commercial. He indicated he would like to see the developers take this risk. It could turn that area into a live/work area.

Andrew Mack, Director of Development, stated that flexibility was what the Commissioner was speaking of. Being this was the second reading, approving it with commercial and allowing for future flexibility would be the way to go. The City should be allowing the live/work; we look at the live/work at the audit. At that point the Commissioner could amend that plan.

Mayor Grant asked if Mr. Mack was making it a developer option and direct staff to review. Then staff could come back with other options and the City would have a balance. Mr. Mack agreed the City need to have a balance.

Mayor Grant noted live/work brings high paying jobs, retail does not have high paying jobs. He does not have a problem with either commercial or live/work.

Commissioner McCray said that the Commission wanted it to be a commercial hub; we need to stick with the path.

Vice Mayor Katz stated to recap, this would be the first building on Boynton Beach Boulevard to deviate on speculation. Any developer could come and make the exact same argument. Once enough buildings do not conform, no one would want to conform. The bottom line, and through various other plans that were made, the City has

been more than generous to the project as a whole. It was not abandoning Boynton Beach Boulevard, but it was a sign for future development. The first piece of development that we are putting there was not going to be what the City intended.

Mayor Grant asked for final comment.

Commissioner Romelus voiced her disagreement that the City was willing to let them fail, let their building fail, then come back and readdress. She stated she would rather provide the developers with options.

Vice Mayor Katz said that he believes it would be successful. He was not saying build something, then let it fail, then readdress. Right now Boynton Beach Boulevard was successful.

Commissioner Casello asked what type of cost would there be to go from commercial to live/work or go to commercial from live/work. Was this doable?

Juan Caycedo, Architect, stated that anything was doable. He does not have a number relating to the cost of conversion. It was difficult to do once the building was up.

Commissioner Casello agreed with Commissioner Romelus. He did not think this project would not be successful as a commercial venture. He understands what the other Commissioners have voiced. He believes live/work would work better.

Commissioner Romelus said in terms of conversion, can the live/work be converted to commercial.

Mr. Miller stated there are some uses that cannot be converted. He continued to say uses that maybe hazardous, or a nuisance, there are some qualifiers. He noted he was trying to make everyone happy; it was commercial space on the ground level.

Commissioner McCray noted that the City wants a viable down town. Let them build; he indicated the City of Boynton Beach has someone who was willing to build.

Commissioner Casello asked how the places would get a delivery. Mr. Miller replied for that particular space, there was a loading area near the dumpsters. Commissioner Casello indicated that they would park down Third Street.

Mayor Grant asked for a motion for the live/work conditional use on the Boynton Beach Boulevard. As the first condition of approval.

Motion

Commissioner Casello moved to approve seconded by Commissioner Romelus with the conditional used as stated.

Vote

City Clerk Pyle called the roll. The vote was 3-2 (*dissenting Vice Mayor Katz and Commissioner McCray)*

Mayor Grant asked for a motion to allow the extra open area on Ocean Avenue. As a second condition of approval.

Motion

Commissioner Romelus moved to approve, seconded by Commissioner Casello with the conditional use as stated.

Vote

City Clerk Pyle called the roll. The vote was 5-0.

Mayor Grant asked for a motion to approve the Final Site Plan Modification.

Motion

Commissioner Casello moved to approve, seconded by Commissioner Romelus.

Vote

City Clerk Pyle called the roll. The vote was 5-0.

E. (1) **PROPOSED ORDINANCE NO: 17-027 - SECOND READING - PUBLIC HEARING -** Approve The Villages at East Ocean - South Future Land Use Map Amendment (LUAR 17-003) from Local Retail Commercial (LRC) to Mixed Use Medium (MXM). Applicant: Arthur B. D'Almeida

Attorney Cherof read PROPOSED ORDINANCE NO: 17-027 - SECOND READING –by title only.

Mr. Miller indicated the area that the Commission was reviewing was a little over 1.5 acre. There will be 35 units. He continued there would be a pedestrian corridor on NW 3rd street. There would be surface level parking. On the ground level would be commercial space. He indicated there would be three story townhomes and the developer has incorporated the oldest house into the City into the plans. Mr. Miller stated his client was in the process of renovating the Andrews House.

Commissioner Casello asked if the Andrews House could be used commercially. Mr. Miller indicated the Andrew House could be used as a Civic Center, or it could be moved to a different location within the City. He stated that this was opened for

discussion. Commissioner McCray asked if anyone closed the Andrews House up for the hurricane. Mr. Miller replied that the building was secured by the developer. He gave an overview of how the units would look and the height of the floors.

Vice Mayor Katz inquired if it was possible to move the house in the future.

Mr. Miller replied to remove the Andrew House the decision needs to be made before the townhomes are built.

Commissioner Romelus inquired about the placement of charging stations. Mr. Miller replied this was market driven.

Commissioner Casello asked whether there are pavers in the intersection. Mr. Miller stated that on Ocean Avenue there will not be any sidewalk curb. He indicated what they were planning was for the intersections to have pavers.

Mayor Grant opened the issue for public comment.

Cindy Falco-DiCorrado, 316 NW 1 Avenue, indicated that she liked the style being presented.

Susan Oyer, **140 SE 27 Way,** indicated when she saw the original plan, it appeared that with these townhomes could end up with an older crowd. She asked if there were enough handicap parking spaces available.

Mr. Miller replied the great part about the townhomes was there are designated spaces in the garage. They are not designated handicapped but for the unit. He believes that there was handicap parking on the street. There are three parking spaces that are on surface plus the townhomes have their own parking.

Ms. Oyer asked about the electric charging station. Mr. Miller indicated that the electric charging station will be incorporated into the design.

Mayor Grant asked for a motion to approve.

Motion

Commissioner Romelus moved to approve, seconded by Commissioner Casello.

Vote

City Clerk Pyle called the roll. The vote was 5-0.

(2) **PROPOSED ORDINANCE NO: 17-028 - SECOND READING -** Approve The Villages at East Ocean - South Rezoning (LUAR 17-003) from C-2 Neighborhood Commercial to MU-2, Mixed Use 2 District with a proposed site plan for 35 multi-family units and 3,500 square feet of commercial space. Applicant: Arthur B. D'Almeida

Mayor Grant asked for a motion to approve.

Motion

Commissioner Romelus moved to approve, seconded by Commissioner Casello.

Vote

City Clerk Pyle called the roll. The vote was 5-0.

F. Approve The Village at East Ocean Avenue - South Major Site Plan Modification (MSPM 17-004) for a mixed-use development consisting of 35 dwelling units, commercial space, and associated recreational amenities and parking on a 1.764 acre site. Applicant: Arthur D'Almeida.

Mayor Grant asked for a motion to approve.

Motion

Commissioner Romelus moved to approve, seconded by Commissioner Casello.

Vote

Unanimously approved.

G. **PROPOSED ORDINANCE NO. 17-029 - SECOND READING - PUBLIC HEARING** - Approve Flood Prevention Requirements (CDRV 17-005) - Amending the LAND DEVELOPMENT REGULATIONS, Chapter 1, Article II, Definitions and Article VIII, Section 1.D, Appeals, Chapter 2, Article IV, Sections 2 and 4, and Chapter 4, Article X, to update definitions, Building Division Processes, Standards, and adopt Flood Insurance Rate Maps and Flood Insurance Study in accordance with the NFIP requirements. City initiated. ***(Ordinance number changed from 17-022 to 17-029 - scrivener error)***

Attorney Cherof read PROPOSED ORDINANCE NO. 17-029 - SECOND READING - PUBLIC HEARING by title.

Shane Kittendorf, Building Official, stated the objectives of the Community Rating System (CRS) recognizes and encourages community flood plan management activities that exceed the minimum NFIP standards. Besides the benefit of reduced insurance rates, CRS flood plan management activities enhanced public safety, reduced damages to property & infrastructure, avoided economic disruption, reduced human suffering, and protected the environment. Flood maps are used to help determine flood insurance and building requirements. Flood maps are being updated to incorporate the latest and most accurate information into the maps so that they better reflect the risk. He continued to say that Federal Law requires that if your property is in a flood area federally insured mortgage flood insurance is required.

Mr. Kittendorf continued with the time line. FEMA issued flood insurance rate maps (FIRM) and Flood Insurance Study (FIS) in 1982. FEMA completed a re-evaluation of flood hazards in Palm Beach County on August 18, 2014. FEMA conducted four (4) public workshops; one (1) in Boynton Beach to view, obtain assistance, and ask questions. Notice was published in various newspapers and Federal Register. The 90-day appeal period ended and no appeals were received. FIRM maps and FIS will become effective as of October 5, 2017.

The key changes include reorganization and update of flood definitions for compliance with NFIP, reorganization and update of flood requirements for compliance with NFIP, striking of redundant provisions now in the Florida Building and Residential Code. Added requirements for flood variances according to NFIP were clarification of designated Flood Plan Administrator and duties, listing of specific federal and state permits that may be required, requirement of development permits for other buildings and structures that are exempt from Florida Building Code. Adoption by reference the October 5, 2017 FIRM Maps and FIS reports.

Mr. Kittendorf noted the 1982 flood map of Boynton Beach Leisureville was a major area that currently is located in a flood hazard area. Residents have applied for Letter of Map Amendments (LOMA), to take their homes out of the flood hazard area. He indicated with the new maps, the entire Leisureville area was no longer in a flood hazard area. He wanted to clarify if there was sustainable amount of rain you could have flooding whether or not there was a designation of a flood zone.

Mayor Grant inquired in January 2014, when the City of Boynton Beach received 20 inches of rain, he wanted to know if the Leisureville area flooded. Mr. Kittendof stated that with that amount of water it would most likely flood. The ground can only absorb so much water. He said even if not in a flood area, it would not be unusual to flood given 20 inches of rain.

Commissioner Casello asked about the elevation of Leisureville. Mr. Kittendof replied Leisurevile was 5 or 6 feet above the base line currently. He said that most of the homes in that area were built between the years 1950-1960. The homes are of the same size.

Commissioner McCray asked about 2014, did it flood in Leisureville. Mr. Kittendof again stated that he did not know the status back in 2014. He informed the Commission in Hallandale Beach it did not flood. Mr. Kittendof continued to say the amendments will satisfy the mandatory requirement of the NFIP. This would enhance public safety and protect the environment, reduce damages to property and public infrastructures and avoid economic disruption and losses; ultimately reduce human suffering.

Mayor Grant opened up to public comment. Seeing none, Mayor Grant sought a motion to approve.

Motion

Commissioner Romelus moved to approve seconded by Commissioner McCray.

Vote

City Clerk Pyle called the roll. The vote was 5-0.

H. **PROPOSED ORDINANCE NO. 17-020 - SECOND READING - PUBLIC HEARING -** AMEND THE LAND DEVELOPMENT REGULATIONS, Chapter 1, Article II. Definitions and Article V, Section 2, Workforce Housing Program, to convert the mandatory inclusionary zoning program to an incentivized program emphasizing project density and building height. ***(Second Reading advertised for September 19, 2017)***

Attorney Cherof read the PROPOSED ORDINANCE NO. 17-020 - SECOND READING - PUBLIC HEARING by title only into the record.

Andrew Mack Director of Development stated that he has the old presentation; he would answer any questions the Commission may have.

Mayor Grant asked if there were any differences from the first reading. Mr. Mack stated that there were no changes from the first reading. Mayor Grant indicated that this was the third time voting on this workforce amendment. We are moving forward with our Work Force Housing amendment.

Mr. Mack indicated the first reading was on August 15, 2017.

Mayor Grant opened up for public comment.

Susan Oyer, 140 SE 27 Way, indicated that she was no longer in agreement for workforce housing. She requested the Commission to please go back and listen to minutes of the Planning and Development meeting.

Mayor Grant asked for a motion to approve.

Motion

Commissioner Romelus moved to approve, seconded by Commissioner Casello.

Vote

City Clerk Pyle called the roll. The vote was 5-0.

Commissioner McCray stated that Commissioner Casello needed to vote on 9A.

10. CITY MANAGER'S REPORT - None

11. UNFINISHED BUSINESS - None

12. NEW BUSINESS - None

13. LEGAL - None

14. FUTURE AGENDA ITEMS

A. Discussion relating to the future of the Building Board of Adjustment and Appeals - October 3, 2017

B. Discussion of number of boards people are allowed to serve on at one time, attendance policies, eligibility rules and qualification of members for all boards- October 3, 2017

C. Staff to review and report concerning Florida Textile Recycling, LLC. FTR, LLC which provides automated clothing recycling as a non-profit corporation and provides funding to agencies for other non-profit uses - TBD

D. Staff to research possibility of allowing dogs at the beach during certain hours and bring back to Commission - TBD

E. The Mayor has requested to discuss the possibility of a resolution by the City in support of development of a boat lift at the C51 canal. - October 3, 2017

F. **PROPOSED ORDINANCE NO. 17-021 - SECOND READING** - Approve Town Square Future Land Use Map Amendment from Public and Private Governmental/Institutional (PPGI) and High Density Residential (HDR) to Mixed Use Medium (MXM) and rezone from PU Public Usage, REC Recreation and R-3 Multifamily to MU-3 Mixed Use 3 zoning district. City-initiated.***(First Reading approved 8/15, Second Reading Pending Fl. Dept. of Economic Opportunity approval, which takes approximately 2 to 4 months.)***

PROPOSED ORDINANCE NO. 17-022 - SECOND READING - Amending Ordinance 02-013 to Rezone a Parcel of Land Described Herein and Commonly Referred to as Town Square From Public Usage (Pu); Recreation (Rec) And Multifamily (R-3) to Mixed Use 3 (Mu-3).

G. Mayor Grant has requested discussion concerning registered lobbyists and their participation on City advisory boards - TBD

H. Commission to consider temporarily suspending the enforcement actions of the Community Standards Division for those sections of the Code that require corrective action, but may be unattainable due to conditions created by Hurricane Irma.

Mayor Grant asked if notices were sent out, if there were any violations.

Mark Woods, Director of Community Standards, indicated currently the Department was sending out notices. However, the City of Boynton Beach was trying to be sympathetic to the residents because of the storm. Mayor Grant asked if there was a deadline with the notices. Mr. Woods stated that if a notice was sent, it would have a deadline. Mayor Grant asked if the City of Boynton Beach could extend the deadline for the notices. Mr. Woods indicated that would not enforce those Codes. This would not be for every Code, just certain items. As an example, when fences are down. By charter it was the Community Standards Department to enforce the provisions of the Charter. Mr. Woods stated he wanted to get the input from the Commission.

Mayor Grant asked if he wanted to remove it off of the Future Agenda item or discuss now.

Vice Mayor Katz stated that he was not in agreement to temporarily suspend the actions of Code Enforcement. The City of Boynton Beach needs to say what was hurricane related. He felt that some guidelines needed to be put into place.

Attorney Cherof indicated that he would advise the Commission not to pass an action to suspend the Code. He would suggest that staff use its discretion regarding violations.

Mayor Grant stated that if there are certain issues regarding violations Community Standards should use discretion when issuing violations.

Vice Mayor Kats was in agreement with allowing Community Standards to use its discretion regarding Code violations.

15. ADJOURNMENT

Mayor Grant asked for a motion to adjourn.

Motion

Commissioner McCray moved to adjourn. Vice Mayor Katz seconded the motion.

Vote

The motion unanimously passed. The meeting was adjourned at 10:01p.m.

(Continued on next page)

CITY OF BOYNTON BEACH

_____
Mayor - Steven B. Grant

_____
Vice Mayor – Justin Katz

_____
Commissioner - McCray

_____
Commissioner - Christina Romelus

_____
Commissioner - Joe Casello

ATTEST

_____
Judith A. Pyle, CMC
City Clerk

_____
Queenester Nieves,
Deputy City Clerk

MINUTES OF THE REGULAR CITY COMMISSION MEETING HELD ON TUESDAY OCTOBER 17, 2017, AT 6:30 P.M. IN COMMISSION CHAMBERS, CITY HALL 100 E. BOYNTON BEACH BOULEVARD, BOYNTON BEACH, FLORIDA

PRESENT:

Steven B. Grant, Mayor
Justin Katz, Vice Mayor
Mack McCray, Commissioner
Christina Romelus, Commissioner
Joe Casello, Commissioner

Lori LaVerriere, City Manager
Shana Bridgeman, Assistant City Attorney
Judith A. Pyle City Clerk

1. OPENINGS

A. Call to Order - Mayor Steven B. Grant

Mayor Grant called the meeting to order at 6:30 p.m.

Invocation

Commissioner McCray gave the invocation.

Pledge of Allegiance to the Flag led by Commissioner Romelus

The members recited the Pledge of Allegiance to the Flag.

Roll Call

Judith A. Pyle, City Clerk, called the roll. A quorum was present.

Agenda Approval:

1. Additions, Deletions, Corrections

Commissioner McCray requested to add an update on the hurricane debris removal to Announcements/Updates from Public Works as Item F.

Vice Mayor Katz requested to add a discussion of Public Art to Future Agenda Items as Item H.

Mayor Grant requested to move up the presentation of Fiscal Year 17/18 Strategic Plan Initiatives before Public Audience so the public can ask questions of Trina Pulliam, of Trainovations.

Adoption

Motion

Commissioner Romelus moved to approve as amended. Commissioner McCray seconded the motion.

Vote

The motion unanimously passed.

2. OTHER

A. Informational items by Members of the City Commission

Commissioner Casello had no disclosures.

Commissioner Romelus had met with individuals from a homebuilding company that uses shipping containers to build homes. She wanted to increase affordable housing for Boynton Beach residents and Palm Beach County as a whole. The firm is based in Miami. She also met with Habitat for Humanity regarding lots they were interested in purchasing.

Mayor Grant met regarding the Bloomberg Philanthropie's Mayor's Challenge and representatives from Hunters Run. He attended Literacy Luncheon and announced the Read for the Record on Thursday. He noted Boynton Beach was a four-time champion and he thanked staff in advance for their hard work reading to local children. He attended an I Love Kickboxing Ribbon-Cutting Grand Opening and the premier movie from the Movies in the Park series to see *Descendents II*. He met with the Boynton Beach Garden Club and advised the City and Garden Club are renovating a City Garden Park on Seacrest and NW 6th Avenue. He attended a Police Award's ceremony and met with County Commissioner Mack Bernard at the Mayors and Managers Conference. He attended the League of Cities District II and III meeting and attended the King Tides Cruise regarding sea level rise and how cities can help stay pollution. He met with local bankers at SunTrust, Iberia, Flagler and AmTrust banks and attended a Healthier Boynton Beach meeting. On October 16th, he spoke with WLNR news about medical marijuana and toured the Old High School. Earlier in the day he attended a legislative delegation meeting at the Solid Waste Authority.

Commissioner McCray announced he saw Mayor Grant on TV regarding medical marijuana speaking with a doctor at a building off I-95. He saw eight people there taking pictures and did not know why. He also commented he was not contacted regarding Read for the Record and would wait for someone to contact him.

Vice Mayor Katz had no disclosures or announcements.

3. ANNOUNCEMENTS, COMMUNITY AND SPECIAL EVENTS AND PRESENTATIONS

A. Announcement of the Community Redevelopment Agency's (CRA's) 6th Annual Boynton Beach Pirate Fest and Mermaid Splash.

Lord Henry Hyde was present with Lady Calliope to announce the 6th Annual Boynton Beach Haunted Pirate Fest and Mermaid Splash on October 21st and 22nd. He announced the CRA has outdone themselves compared to last year and there will be all sorts of performances all day long. There are 12 stages. There will be Moonie the Magnificent, an acrobat extraordinaire, a wheel of death, fire breathers, Pirates, costume characters and children's activities, dancers and musicians. He announced it is a free event and invited all to the event. Flyers were in the back of the room. It was noted the Police will be present on Seacrest Boulevard.

B. Announcement by Recreation & Parks Director about the upcoming holiday events and now accepting nominations for the Holiday Parade Grand Marshal. Catch the Holiday Spirit by joining us at these wonderful events:

Holiday Movie at the amphitheater beginning at 7pm on Friday, Dec. 1
Holiday Parade on Federal Hwy., beginning at 4pm on Saturday, Dec. 2
Holiday Tree Lighting, beginning at 5:30pm on Saturday, Dec. 2.
Holiday Boat Parade, 6pm - 8pm on Friday, Dec. 8
Music on the Rocks, beginning at 6pm on Friday, Dec. 15.

Wally Majors, Recreation and Parks Director, invited the community to help select a Grand Marshal for the Holiday Parade. The individual should be one who made a positive impact in the community and he noted this is a longstanding City tradition. Nominations can be submitted through the City's website. Mr. Majors announced he extended the deadline one week from October 20th. The Parade will be held on Saturday, December 2nd at 4:00 p.m. at Federal Highway using the traditional parade route. The Holiday Tree Lighting will take place after the parade at the Schoolhouse Children's Museum. He asked attendees to submit nominations and anyone with questions to call him or Stephanie Soplop, at 742-6649. Nominations can also be submitted via phone or in written form. The flyer is available at the back of the Chambers.

Commissioner McCray asked Lori LaVerriere, City Manager, if anyone contacted Delray Beach regarding funding assistance with this year's Holiday Boat Parade. Ms. LaVerriere responded the CRA handles that event and she would follow up with Mike Simon, Executive Director.

C. Announce the City of Boynton Beach is hosting a Flood Awareness Workshop on Wednesday, November 8th from 5:30-7:00 pm at the Intracoastal Park Clubhouse. The workshop will answer residents' questions about flooding and City services,

the newly revised FEMA flood insurance rate maps will be on display. For more information, contact Rebecca Harvey, Sustainability

Mayor Grant presented the Item as noted above and advised flyers were in the back of the room.

D. Announce that the City will be holding a project update for the community on the Town Square Project - Phase 1 on Wednesday, November 1, 2017 from 5:30 PM - 7:00 PM in the Library Program Room.

Mayor Grant announced the meeting.

E. Schedule and announce a special meeting of the City Commission and the CRA for discussion and consideration of Town Square Phase II contract. Staff recommends a special meeting be held prior to the November 7, 2017 regular City Commission meeting to allow enough time for presentation and discussion of the Phase II contract documents. Staff recommends the special meeting begin at 4:00 p.m.

Mayor Grant announced the Special CRA and City Commission meeting regarding the Town Square Phase II contract. Vice Mayor Katz announced he would be late. Ms. LaVerriere advised she could issue the notice and have it properly advertised, but it was unknown if the developers will be ready and they may have to postpone the meeting. She will know more by Friday, if not held on November 1st, the meeting would occur in mid to late November.

F. Update on Hurricane Clean-up Debris from Public Works.

Jeff Livergood, Director of Public Works and Engineering, was present. Commissioner McCray noted the Solid Waste Authority had announced there is two years of cleanup to remove. He commented he was contacted by residents from all over the City inquiring about the delay and hoped the newspaper would give an update how the cleanup was proceeding. He was appalled nothing was sent to residents informing them not to comingle household waste, trash and debris. He hoped there would not be another hurricane and wanted Community Standards, when out in the community, to notify homeowners with beds and sofas to separate the items to be discarded. He met with Mr. Woods regarding a project in his district and thanked him as Community Standards was reaching out to the public. They were not trying to fine people, and he praised the Department on a job well done.

Mr. Livergood explained, he calculates the City being 70% by volume complete with the cleanup. The City has completed one and in most cases, two passes removing clean vegetation. He advised the Monday, Tuesday, and Thursday, Friday garbage routes are back on schedule. Some residents are discarding more debris and landscape waste into the carts causing delays, but all of the garbage is collected from the carts by Saturday.

Recycling is on schedule. Bulk trash, which accommodates large items such as mattresses, couches and others, is not on schedule and it accounts for most of the complaints. He requested residents delay disposing of large items until the City completely removes the hurricane debris. The City retained a contractor with two trucks to remove clean vegetation in addition to using all of the City's employees, and the Utility Department providing additional trucks. He anticipated the majority of the mixed debris and the majority of the bulk trash would be gone by Saturday. The goal is to start regular routes by Monday. Staff likely will not complete most of the routes, but it will have a clear process as opposed to jumping to different neighborhoods. The City was working in the area north of Seacrest and Boynton Beach Boulevard and was moving to Chapel Hill and Golfview Harbor Estates through the weekend. Staff will also concentrate on the south part of the City that has mixed debris loads until Saturday.

Mr. Livergood explained, consistent with storms, the damage wears on all and residents lose patience when they want their streets clear. Staff knew the removal would take about 60 days and he agreed it is frustrating for those who were the first to have their debris removed, the same as it is for the last residents to have their debris removed. Staff is methodically moving through the community. Mr. Livergood conveyed the City is making great progress and he is very proud to have a talented staff that is good about removing debris.

Commissioner McCray agreed residents in District II continued to put out trash and it was a communication matter. He praised staff for an exceptional job. Mr. Livergood explained there was a very concerted effort to notify the community because the rules had changed regarding mixed debris loads. Staff also had to adapt how to use contractors and staff to address those issues. Next year, staff will have to use different techniques to inform the community about what should and should not be put out before a storm. There was time to prepare for the hurricane, which arrived after a holiday weekend. People prepared by pruning and throwing away last minute patio items they did not want to blow away and there was no way for the City to pick it up before the hurricane. Commissioner McCray suggested staff prepare a brochure to mail to each household to educate the residents about what to do before and after a hurricane at the beginning of next year's hurricane season. He commented he works in Broward and there is still a lot of trash there. Mayor Grant noted staff has to submit a report to FEMA for reimbursement. He wanted Mr. Livergood to make a report of the final tally of debris removed and learned staff was doing a good job of tracking all expenses.

Commissioner Romelus thanked Mr. Livergood and the Department for their efforts. She advised she received complaints regarding some of the Community Standards Officers starting to cite or pursue owners regarding lawn issues that still remain after Irma. She asked what protocol they follow.

Mark Woods, Director, Community Standards, explained, based on the City Commission meeting, the Commission decided to have a moratorium of sorts to relax those efforts. Items related to the storm are not cited, but others violations are cited. Rotten fascia and

overgrown grass will be cited. Commissioner Romelus was not sure how that applied considering there is a pile of garbage on a person's lawn and individuals cannot contact their landscaper. Mr. Woods responded each case is based on the inspector's evaluation. In general, the Officers look at the property and decide if the violations are storm related; if so, they provide information to the property owner. Commissioner Romelus thought it may be in the interest of the City to review complaints from residents who are cited. Mr. Woods agreed and explained if someone calls and says what the issue is, they work with the owner and he pointed out the entire process was changed so the homeowner would not immediately receive a violation. If anything, they would have received a courtesy notice. She requested a meeting with Mr. Woods after the meeting to provide information on the constituent.

Mayor Grant commented if a property owner disagrees with the interpretation made by Community Standards, they can always call or write, but if the property owner does not contact Community Standards, in most cases, the Department moves forward with the matter.

Commissioner McCray explained a Haitian Church approached him as they received a courtesy notice and they needed an interpreter. He advised he and Mr. Woods had discussed the matter. He also mentioned other individuals contacted him as they were cited and felt the violation was storm related. Community Standards Officers returned and explained it was not storm related and it was resolved. He agreed with Commissioner Romelus, but pointed out after they were presented with the violation, they learned they were in violation prior to the hurricane.

Mayor Grant announced the Grand Reopening of the LINKs at Boynton Beach Golf Course on October 28th from 9 a.m. to 1 p.m. and advised the Championship Course and practice areas were rebuilt with Tif Eagle Grass. The driving range and the enlarged T-Box was resurfaced with Celebration grass. The first 100 golfers will receive a pack of Wilson Golf Balls, and those after would receive free 15-minute individual lessons with a PGA pro. There will be a free putting contest with prizes being 10% off all pro shop merchandise and 20% off daily golf fees. Wings, burgers and hot dogs are available for purchase. He noted the Chamber of Commerce is holding a tournament on Friday and the Boynton Beach Fire Department was holding a tournament on the 28th. Commissioner Casello commended the City Commission for its assistance in refurbishing the golf course. He praised the City and Ron Tapper, Golf Course Manager, for their commitment to upgrade the golf course to be competitive. He advised Ron Tapper and staff did an outstanding job.

B. Presentation of FY 17/18 Strategic Plan Initiatives by Trina Pulliam. *(Heard out of Order)*

Trina Puliman, from Trainovations, announced the City has come a long way. Ms. Puliman analyzed the Fiscal Year 2015 Strategic Plan, which was prepared by another group and noted it contained 156 individual tasks. They analyzed the tasks and by Fiscal

Year 2016, the Strategic Plan contained 17 tasks, which was more manageable and was a significant shift. Beginning with the Fiscal Year 2017 Strategic Planning cycle, the City shifted from tasks to strategic initiatives, which were the most important issues to the residents, staff and the City. They were able to work on items that would achieve the vision and mission of Boynton Beach.

The City determined there are four overarching major strategies named Strategic Initiatives, which drive the work to align with one of the four categories below:

- Redevelop the Downtown
- Build Wealth in the Community
- Boynton Beach Branding
- Transportation and Mobility.

The Fiscal Year 2018 work examines the work for the departments to ensure it aligns with the four initiatives. Some tasks will align with one initiative while others may align with all. Next year, they will report on the metrics and gauge the success of the City's work. They will review each department. She noted Mr. Scott already collected some data and Ms. Pulliam will report on how they collect those metrics and will make data driven decisions

Mayor Grant commented they had a six-month update last year. He asked if an update will be given in 2018 and learned they would and they would expand on how the four initiatives apply to all the departments.

4. PUBLIC AUDIENCE

INDIVIDUAL SPEAKERS WILL BE LIMITED TO 3 MINUTE PRESENTATIONS (at the discretion of the Chair, this 3 minute allowance may need to be adjusted depending on the level of business coming before the City Commission)

Sonny Garcia, 1631 NW 3rd Lane, Vice President, Rolling Green Association, complained about parking on the grass on NE 17th Avenue. The City has No Parking signs posted by the stop sign and he sees speeding vehicles. He commented he drives slowly and recently a small boy ran in front of him and he was able to stop, but those speeding would not be able to stop. He was told there would be officers present when the school picks up and drops off students, but he only saw officers once. He requested something be done. He requested curbs be installed to stop people from parking on the grass or the City contact the School Board to have the students picked up at the Ezell Hester Center. He was tired of calling the Police Department and receiving calls at his home. He added residents could also call Commissioner McCray as he had received calls. Mr. Garcia noted the Red Light Cameras have been reinstated and they save lives and have timers. He had provided a picture of how the timers show how much time there is to cross the street. He proposed if the City Commission wants to make Boynton Beach safe, they should put the cameras by the lights.

Commissioner McCray explained Mr. Garcia called him and advised an Officer had called him to indicate they would follow through, but no one called Mr. Garcia and Mr. Garcia called him again. Commissioner McCray visited the site and saw no Officers present. He commented when someone tells a citizen what they will do, he expects the employee to keep their word.

Mr. Garcia wanted to speak with Captain Kelly and Major Johnson and Dispatch told them neither of them were available. Dispatch was unaware of the situation and he questioned why they could not get in touch with the Captain, Major or Sergeant. He thought it was poor as someone has to be on duty at all times and be available to speak with citizens.

Susan Oyer, 140 SE 27th Way, thanked Commissioner Romelus for judging the Seacrest Estates Halloween and Christmas/ Hanukah decorating contest. She spoke about the Wands for Wildlife program using old clean mascara wands. The charity uses the wands to clean injured and/or orphaned wild animals. A collection box will be at Oyer Insurance and she will collect the wands and send them to the charity twice a year. Her students are involved in the effort and she invited the City to do so as well. She also distributed information from the 1,000 Friends of Florida, which talks about town character and what the City should be doing and encouraging in various towns as they restructure.

Barbara Ready, 329 SW 13th Avenue, asked about the Strategic Plan and what was being done to encourage citizen/taxpayer participation, transparency, communication and input opportunities. She noted Commissioner McCray had commented about debris and communication.

Ms. Pulliam responded these are items frequently discussed at City staff meetings as well as how to work on transportation and mobility in a transparent way. She pointed out these efforts would fall under the values of the City. As for community input, they discussed and will implement a resident/community survey this year to allow City residents to provide input. Ms. Ready asked if the community was given the opportunity to participate in the writing of the plan. Ms. Pulliam responded not this year, but they may in the future as they look at the results of the community survey. There are incremental steps being taken. Ms. Ready felt citizen input was important. Ms. Pulliam agreed and advised they will have the survey and she will help the City analyze the results and then discuss focus groups to validate the information. Ms. Ready explained there are community concerns that could be addressed and included in the Plan.

Commissioner McCray explained the City has focus groups, but there was no citizen input on this plan. He pointed out City Commissioners are only policy makers and he was baffled.

Ms. LaVerriere explained this year they held public workshops on the Strategic Plan and the City was changing the way it develops the Plan. The City used to have a 75 page Strategic Plan. This year they changed consultants and moved to a more overarching, broader initiative or vision. Four goals were identified. The City will develop metrics for

what they do in the business and analyze if the action meets those goals and fit in the categories. The next step is to measure how they are doing. The City is not there yet with the focus group, but was starting with the survey first early next year. Then the focus groups would start work on the four initiatives. Commissioner McCray commented when he participated in Strategic Planning in the past, stakeholders were included. He agreed with Ms. Ready. Commissioner McCray requested Ms. Ready be given a copy of the old and new plans.

David Scott, Director, Economic Development and Strategy, commented he and Ms. Ready spoke and what they discussed was what Ms. LaVerriere and Ms. Pulliam stated. Four overarching Strategic Initiatives were developed and in the future, all departments will align with the initiatives and there will be a lot of community input. Items such as branding cannot be implemented without community input and all of the activities for each initiative will require a lot of community input. Ms. LaVerriere commented this was a change and it is brand new.

Commissioner McCray commented District II residents had inquired about Mr. Scott's position and he respond he was trying to figure it out as well. He was not getting positive feedback and District II has branded Mr. Scott.

William Cwynar, 2701 SW 8th Street, thanked Mayor Grant, Commissioner McCray and Commissioner Romelus for calling him in response to his email. At the last meeting, there was discussion about a lobbyist serving on a Board and he conveyed he opposed it unless all of the lobbyist's clients are listed and they recuse themselves on any matter before any Board in which they were involved. He thought Mayors and City Commissioners would have to recuse themselves from voting on any matter pertaining to anyone who ever donated to their campaign and it would be a lot more open and honest. He again thanked the three Commissioners who responded to his email and thought the cell phones from the other two Commissioners may have been broken. He advised it would be nice to get an update on the Hurricane. Mayor Grant explained an update was made earlier in the meeting and explained the lobbyist list is on the Palm Beach County website. Each lobbyist has to name their principal. As for donations received by politicians, the official has to declare it, but it does not mean they have to vote for them. He has voted against items requested by campaign donors.

Brian Fitzpatrick, 409 NE 1st Street, spoke about the Boynton Beach Housing Authority, and thought a consultant may be needed to guide the City through the process of becoming one, which would bring tens of millions of dollars into the City. He was disappointed about the City Commission failing to agree about the location of the Police Department and that some Commissioners indicated their constituents did not like the idea. He expressed some individuals may have a vested interest in keeping the HOB in its current rundown state. Having a new Police Department or City Hall would jumpstart development in the community and he thought the City may have developed a community standard for an acceptable level of shootings. He was disappointed developing the HOB was not in the Strategic Plan and expressed the HOB was not important any more.

Cal Warriner, Searcy, Denny, Scarola, Barnhard & Shipley Law firm, was present at the invitation of Mayor Grant. He announced the opioid crisis has affected hundreds of thousands of families. Deaths from opioid abuse exceeds those caused by smoking, car accidents and firearms/homicides combined. States and municipalities are rallying together and filing suits against the manufacturers of opioids, their distributors and drug stores to recoup those losses. In 2016, Boynton Beach EMS personnel responded to 450 opioid overdose calls. The expense from EMS responding to these calls is the tip of the iceberg, including halfway houses and even employees on long-term prescriptions for pain, is significant.

Mr. Warriner advised the City would not spearhead the issue; rather they would join with others. Delray Beach hired counsel and Palm Beach County is speaking with law firms about representation as were many other South Florida municipalities. If anyone was interested, they are available to speak with them. Mayor Grant commented the City Attorney will get the information and review the lawsuit and options available. The item could be a future agenda item. He saw the recent *60 Minutes* expose and it was heartbreaking what the Federal Government was doing allowing millions of pills to be distributed. The City would have to look at the actual expense to the City, what the City funds in the community and where those expenses lie to determine whether to take action under State or Federal Law.

Mr. Warriner explained it is an individual suit and there may be coordination of the cases on the federal level. The defendant would be 15 manufactures of opioids, pharmaceuticals and distributors all the way down to drug stores and chains of drug stores.

Mr. Warriner advised he was not soliciting the City. Vice Mayor Katz noted this was public comment and Mr. Warriner was invited to speak by a member of the Commission.

Mayor Grant asked if the City Commission wanted to add this as a future agenda item. There was no support to discuss it in the future.

Commissioner McCray commented these meetings are supposed to be recorded and he hears Vice Mayor Katz talking when he makes his comments. He announced he lets his voice be heard and if anyone had anything to say about Commissioner McCray, they should say it publically so it could be recorded.

Vice Mayor Katz commented there was no conversation. It has gotten to a point that if the use of staff continues to be used as props to make political points in public persists, he would, on an individual basis, start responding to those who use these staff as puppets. If constituents complain about something, the complaint should be sent to the City Manager who brings it to staff and they address it. He hears constituents say this or that about a particular topic, but it is a handful of people in districts. From time to time, some people are dissatisfied with anything in the City. He announced he would not tolerate it if he hears people call staff and try to make them look foolish for a political point or a sound

bit. He would not want to be treated that way if he was a City employee or on any job and if it continued, there will be a response. Commissioner McCray accepted that.

Mayor Grant noted in the future when calling staff to the podium, the Commission is allowed to make comments, but some comments, especially from the audience, are hurtful. Some comments are not positive, but they can be put on the record. He explained if someone on the dais has a comment, they should raise their hand and he will ensure they speak but will stop them if they are too personal. He advised he does not want more than one person talking at a time. Vice Mayor Katz clarified he was not referring to the public's ability to be critical of the government, it was more about the individuals on the dais.

Commissioner Casello has no problem with anyone speaking against any official, but agreed it was troubling when an elected official, sitting at the dais belittles a City employee. He agreed with Vice Mayor Katz that if there is a complaint, they approach the City Manager. The City Commission is responsible for the budget and policy, not personnel. It does not paint the City favorably if Commissioners express their personal feelings about certain individuals.

Commissioner McCray advised he had taken things to the City Manager when he was supposed to and he has been on the Commission for 13 years. He conveys what citizens tell him to them and if there is no outcome or recourse and the person is fanfaring in front of him he will speak out. Whoever does not like it will go toe to toe with him and then it will be done.

No one else coming forward, Public Audience was closed.

5. ADMINISTRATIVE

A. Appoint eligible members of the community to serve in vacant positions on City advisory boards.

The following Regular (Reg) and Alternate (Alt) Student (Stu) and Nonvoting Stu (N/V Stu) openings exist:

Arts Commission: 2 Alts
Building Board of Adjustments & Appeals: 2 Regs and 2 Alts
Employee Pension Board: 1 Reg
Library Bd: 1 Alt
Senior Advisory Bd: 1 Alt

Mayor Grant announced the openings on the Boards as noted above. No appointments were made.

6. CONSENT AGENDA

Matters in this section of the Agenda are proposed and recommended by the City Manager for "Consent Agenda" approval of the action indicated in each item, with all of the accompanying material to become a part of the Public Record and subject to staff comments.

A. **PROPOSED RESOLUTION NO. R17-093** - Approve the temporary road closures of Seacrest Blvd, the intersection of W Boynton Beach Blvd and N Seacrest Blvd, E. Ocean Ave., and Federal Highway in between E. Ocean Ave. and Boynton Beach Blvd. on Saturday, November 4, 2017 for the 5K Race for Poverty, and authorize the City Manager, or designee, to apply for the State permit for the temporary road closure.

B. **PROPOSED RESOLUTION NO. R17-094** - Approve the City's State Housing Initiatives Partnership (SHIP) Program Annual Report and Authorize the Mayor or his designee to execute the Certification to accompany the report.

Commissioner McCray pulled this item and advised he was contacted by individuals who applied for SHIP funding. The applicants did not know the guidelines and it seemed that staff did not want to help. He had staff pull a report and saw one or two African American applicants. He hoped staff would be more cognizant of the individuals and address their issues. Commissioner McCray also announced he will get involved if constituent issues are not addressed and was aware there was funding. He commented it was similar to the Community Standards situation and it appeared to his constituents that staff helps their friends. He hoped there would be a more pleasing atmosphere when residents apply.

Lashea Brooks, Community Improvements, explained the SHIP program is a first come, first serve program. Recipients must qualify based on income and the number of people in the house. The City has the funds and the City must spend all the money or it will be returned. Staff helps people that will not qualify and also assists owners seeking to rehabilitate their rental properties, but not investors. If they meet the guidelines, they receive assistance. Individuals seeking to apply should go to the front desk in the West Wing and Community Improvement staff will bring them to the second floor. Funding is ongoing and the program runs year round. Downpayment assistance is for someone who has not owned a home within the last three years.

Commissioner McCray questioned if a justification was given when a person does not qualify and learned it was as long as the applicant submitted a formal application. Ms. Brooks explained there is a lot of documentation required and if they see initially the applicants do not qualify, they try to dissuade the applicant from bringing in further documents. Some banking information and other documents are exempt from disclosure, but income is not. She confirmed the reason for the denial would be included in the file.

Motion

Commissioner McCray moved to approve. Commissioner Casello seconded the motion.

Vote

The motion unanimously passed.

C. **PROPOSED RESOLUTION NO. R17-095** - Authorize the City Manager to sign an annual service agreement with Queues Enforth Development, Inc. in the amount of $71,664 for the continued maintenance and repair of the Public Safety Computer Aided Dispatch/Records Management System as a sole source vendor.

D. **PROPOSED RESOLUTION NO. R17-096** - Authorize the City Manager or designee to apply for and sign all documents with Florida Department of Transportation (FDOT) State Safety Office associated with the grant acceptance and grant agreement subject to the approval of the City Attorney for the Boynton Beach Occupant Protection & Child Passenger Safety Program.

E. **PROPOSED RESOLUTION NO. R17-097** - Authorize the City Manager to sign a proposal/contract with M&M Asphalt Maintenance Inc., d/b/a All County Paving of Delray Beach, FL, in the amount of $89,285, plus a 10% construction contingency in the amount of $9,000 for a total cost of $98,285.00 for the purpose of rehabilitating Commerce Road utilizing the City of West Palm Beach's Paving Contract #16393 pricing, terms and conditions. The City of West Palm Beach's competitive bid process satisfies the City of Boynton Beach's competitive bid requirements.

Commissioner Casello pulled this item for discussion and understood the City would put resources into Commerce Drive, which dead ends into High Ridge Road across from the Landings. His concern was the area is very dark at night. He asked the City Manager about expanding the intersection, for turning trucks and if they could have streetlights installed at the intersection. Commissioner Casello requested she come back with a report. Ms. LaVerriere advised it may involve the County and FPL and she would consult with Mr. Livergood and would check on the cost. She will also investigate if Surtax funds could be used as it is an appropriate expense. She noted Commerce Road is a City-owned road and High Ridge Road is a County Road.

Motion

Commissioner Casello moved to approve. Commissioner Romelus seconded the motion.

Vote

The motion unanimously passed.

F. **PROPOSED RESOLUTION NO. R17-098** - Authorize the City Manager to sign a 3 year Master Services Agreement with AT&T for the installation of a 20MB Dedicated Internet Circuit and Reactive Distributed Denial of Service Monitoring for a total monthly cost of $911.11 split equally between the Police and Fire Department, utilizing the GSA Schedule 70 of the GSA Contract GS-35F-0249JI.

G. Authorize utilizing the State of Florida Contract No. 46000000-15-1, Defense Products, for the purchase of police equipment and ammunition with Lou's Police and Security Equipment of Hialeah, FL for an estimated annual expenditure of $90,000. The State of Florida procurement process satisfies the City's competitive bid requirements.

H. Authorize utilizing the NASPO ValuePoint contract 2016-182, for the purchase of body armor, with Lou's Police and Security Equipment of Hialeah, FL for an estimated annual expenditure of $85,000. The NASPO procurement process satisfies the City's competitive bid requirements.

I. Approve utilizing Sunbelt Waste Equipment of Pompano Beach, FL for an estimated annual expenditure of $85,000. Sunbelt Waste Equipment is the sole source and authorized dealer and repair center for Heil products.

J. Approve an increase to estimated annual expenditure to Thermal Concept from $125,000 to $200,000 per the City Bid #050-2511-16/JMA.

K. Approve the issuance of an annual blanket purchase order to South Florida Emergency Vehicles for an estimated annual expenditure of $75,000 as a sole source vendor.

L. Approve Blanket Purchase order to Lou Bachrodt Freightliner of Pompano Beach, FL in the estimated annual amount of $50,000.

M. Approve the issuance of a purchase order to Expert Diesel of Fort Lauderdale, FL utilizing the City of Miami's contract #291272(17) with an estimated annual estimated expenditure of $35,000. The City of Miami's procurement process satisfies the City's competitive bid requirements.

N. Approve issuing a purchase order to Rechtien International Truck Center for an estimated annual expenditure of $75,000 as a sole source vendor.

O. Approve an increase to the approved expenditure to the "Cooperative Bid to Furnish, Deliver and Discharge Quicklime" with Lhoist North America by an additional $80,000 for the first quarter of fiscal 2017/8.

P. Approve utilizing the City of Bartow, FL Bid No. W D-2017-04 with American Water Chemicals, Inc. of Plant City, FL for Corrosion Inhibitor AW C A-782 for an

estimated annual cost of $40,000. The City of Bartow's procurement process satisfies the City's competitive bid requirements.

Q. Approve the one-year extension for RFPs/Bids and/ or piggy-backs for the procurement of services and/or commodities as described in the written report for October 17, 2017 - "Request for Extensions and/or Piggybacks."

R. Accept the Fiscal Year 2016-2017 Budget Status Report of the General Fund and the Utilities Fund for the eleven (11) month period ended August 31, 2017.

S. Legal Expenses - September 2017 - Information at the request of the City Commission. No action required.

T. Accept the written report to the Commission for purchases over $10,000 for the month of September 2017.

U. Approve the minutes from the Regular City Commission meetings held on September 19, 2017 and October 3, 2017.

Motion

Commissioner McCray moved to approve the Consent Agenda. Commissioner Casello seconded the motion.

Vote

The motion unanimously passed.

7. BIDS AND PURCHASES OVER $100,000

A. Approve utilizing the City of Miami's Contract IFB No. 516388 to furnish and install emergency equipment for law enforcement vehicles on an "AS NEEDED BASIS" from Dana Safety Supply, Inc. of Doral, FL for an estimated annual amount of $225,000. The City of Miami's procurement process satisfies the City's competitive bid requirements.

Mayor Grant announced the item.

Motion

Commissioner Casello moved to approve. Commissioner Romelus seconded the motion.

Vote

The motion unanimously passed.

B. Approve utilizing the City of Delray's Agreement based on ITB #2017-047 for the procurement of bulk gasoline and diesel fuel with MacMillan Oil Company, LLC of Hialeah, FL for the City's fleet with an annual estimated expenditure of $1,500,000. The City of Delray's procurement process satisfies the City of Boynton Beach's competitive bid requirements.

Mayor Grant read the item by title only.

Motion

Commissioner Romelus moved to approve.

Commissioner Romelus wanted to know about the City's efforts to be green and about the potential to use electric or hybrid vehicles.

Mr. Livergood each year when staff prepares the fleet plan, they identify the vehicles the Department needs, and when done, look for the most fuel-efficient vehicles. They traditionally look at internal combustion engines first because when dealing with pick-up trucks and some of the fleet vehicles, electric vehicles do not provide the needed service. Staff reviewed alternative fuels such as liquid propane and compressed natural gas to see if they were available. This year, the City obtained its first electric vehicle, which was a Nissan Leaf. He explained the City has to purchase the vehicles that makes the most sense from an up-front purchase perspective, to an annualized maintenance cost for how long the vehicle will be used, compared to how many miles the operator drives the vehicle. This is needed to ensure the City will receive a payback over the life of the vehicle and staff reviews the information in intricate detail. It is also asked of every department when considering which vehicles to acquire as staff would like to see less money used for diesel and gas.

Mayor Grant commented even though internal combustion vehicles may be the most cost effective, the vehicle burns gas compared to an electric vehicle. He wanted to see the comparison in cost between electric vehicles versus internal combustion vehicles. Mr. Livergood advised that information would be presented next year and it is a value decision that only the City Commission could make. When contemplating a staff vehicle that is $14,000 with an internal combustion engine versus an electric vehicle that is $21,000, the annualized expense is more costly for an electric vehicle and the City Commission would have to determine if it is worth the additional expenditure for the benefits. Staff always look is for the best price. It was noted the City has to pay for its own electric chargers and the public gets to use them for free.

Commissioner McCray asked how much money was spent on fuel during the last fiscal year just ended.

Tim Howard, Assistant City Manager, responded in FY 16/17, the City spent approximately $727,000. The year before was $1 million. The amount fluctuates based

on what is occurring and the price of fuel. Staff requested $1.5 million so they would not have to approach the City Commission if the price increased and they only order the fuel as they use it. Commissioner McCray commented he sees a lot of City vehicles driving around and encouraged the City to be as frugal as possible.

The unused funds remain in the Fleet Fund, which is an internal service fund that is used to pay for the mechanics, the garage, maintenance and equipment and to purchase vehicles in the future. It is an open Purchase Order and as they move through the year, unused funds go back into the Fleet fund each month. The item was on the Consent Agenda because they were starting the new fiscal year. Mr. Howard also advised they piggybacked the State of Florida contract. Delray just went out this year for their contract and the price was less. Staff also checked a cooperative in Ft. Lauderdale, but Delray Beach was lower.

Commissioner McCray seconded the motion.

Vote

The motion unanimously passed.

C.. Approve utilizing the Town of Palm Beach Bid #2015-08 for tree trimming and pruning with Zimmerman Tree Service of Lake Worth, FL for blanket purchase order with an estimated annual expenditure of $190,000. The Town of Palm Beach procurement process satisfies the City's competitive bid requirements.

Mayor Grant presented the item.

Motion

Commissioner McCray moved to approve for discussion.

Commissioner McCray asked how much money was spent last year regarding tree trimming. Mr. Livergood responded with respect to Zimmerman Tree Service there is an existing purchase order not to exceed $25,000. Staff sought to increase the dollar amount and only the City Commission can award the bid. Much of the cost is for hurricane debris removal. Generally, Zimmerman prunes from $50,000 to 100,000 worth of trees mostly in City parks and municipal grounds. He thought it would be higher this year. He also encouraged the City Commission when driving to look up into the trees. There are a lot of hanging branches that are starting to die back that are visible that should be removed.

Commissioner Casello advised the LINKS had alot of tree damage and the crews did good job, but there are large stumps. Mr. Livergood explained he may be able to use Zimmerman and it was discussed earlier in the day. Stumps are difficult to remove and currently, stumps related to hurricane debris are not permitted at the transfer sites. It

would help the City to have a contractor who is able to remove the stumps and collect them.

Commissioner Romelus asked if the City used the traditional bid process to retain Zimmerman's services and learned the City did. It was piggy-backed from Palm Beach who issued the bid based on an hourly rate for this type service. The services are also on an as-needed-basis. The Town of Palm Beach issued the bid at the end of 2015 and Zimmerman is in one of their one-year removal periods. Commissioner McCray questioned if the City could get a better price. Mr. Howard explained one of the reasons the City piggybacked the bid was partially the result of the hurricane and the City wanted to address the trees. Additionally, staff had to consider how long it would take for the City to process its own bid, advertise, open and award. This agreement was already in place so the City moved forward with it this fiscal year to get the trees started and get the process done. Since the hurricane, the responsiveness and the availability of vendors to do this type of work is very limited. He advised they were lucky the contract was already in place.

Mayor Grant had spoken with Mr. Howard why the City did not use someone locally and learned it is difficult to find local bidders. FEMA covers hanging and leaning tree limbs that have not fallen down, but are about to break off. If the branches look dangerous, Public Works should be contacted to avoid them falling on vehicles and people. That was why they were using the hourly rate for the tree trimming.

Commissioner Romelus seconded the motion.

Vote

The motion unanimously passed.

Commissioner Romelus commented there were many protocols that were not followed after the hurricane. The entire State was hit by the hurricane and other cities and municipalities were doubling and tripling payments to get vendors to come to their cities first. She thought it would be appropriate to send a Resolution to encourage the Legislature to understand the situation was a form of price gouging that should not occur. She sought to avoid price gouging and noted Boynton Beach had contracts with vendors who left Boynton Beach to work elsewhere for a higher price. Mayor Grant agreed, but noted there is a free market. Commissioner McCray also agreed the situation should be reviewed.

Ms. LaVerriere explained at the Mayor's and Manager's Conference, a summary was being prepared regarding after actions from the hurricane and there will be discussions at the Legislative level about the matter. Many cities had contracts in place as did the City and Boynton Beach did not receive everything they were supposed to receive. The failure to fulfill contracts left many cities with nothing. She praised City staff that was available to do some of the work. Part of the discussion that will be conveyed to FEMA

is how to react in a timely manner as a City because of the procurement process otherwise it could be months to try to find another vendor to assist during a crisis. Mayor Grant agreed and questioned how a company from Tennessee could handle the job. They provided the lowest bid, but was unable to deliver on the contract. He asked if the City would pursue the company for breach of contract. Ms. LaVerriere responded it depended on the level of breach and it was being discussed with Mr. Livergood.

Mr. Livergood cautioned they must be careful. The companies the City deals with for debris management are national companies and none of them imagined a major storm in Texas, where they had contracts would occur, and then a storm going up the spine of the peninsula affecting many other clients they had. It put a great demand on the company, similar to what is seen after power outages. Companies come from out of state. The best way to deal with it, in this type of crisis with demand is to work cooperatively with the contractors to recognize their constraints and to use their resources wisely and combine them with the City's staff, which worked well. The City was lucky.

D. Approve the ranking of the proposers as determined by the Evaluation Committees and authorize staff to conduct negotiations with the three highest ranked firms: The Mellgren Planning Group; Jon E. Schmidt & Associates d/b/a/ Schmidt Nichols; and Gentile Glas Holloway O'Mahoney & Associates, to establish contracts in accordance with Request for Qualifications - RFQ No.: 049-2410-17/IT for General Planning Services and as per Florida Statutes 287.055, Consultants' Competitive Negotiations Act (CCNA). At completion of negotiations contracts will be brought back to the Commission for approval.

Mayor Grant read the item.

Mr. Howard explained the City issued the RFQ for general services.

Mr. Mack explained the Department issued an RFQ to augment City staff so when there are special projects or tasks that needs a specific skill set, the Department will have the ability, on an as-needed basis, to hire rotating firms during the next three years. This is new and similar to how the City handles the engineering contracts with Utilities. There is a negotiated price set on an hourly basis, and staff brings back task orders with a not to exceed amount. This item was just the award. Staff will negotiate and bring back an hourly rate. Commissioner McCray liked it was on a rotating basis.

Motion

Commissioner Romelus moved to approve. Commissioner McCray seconded the motion.

Vote

The motion unanimously passed.

8. COMMUNITY STANDARDS and LEGAL SETTLEMENTS - None

9. PUBLIC HEARING

7 P.M. OR AS SOON THEREAFTER AS THE AGENDA PERMITS

The City Commission will conduct these public hearings in its dual capacity as Local Planning Agency and City Commission.

A. Approve Courtyard Gardens Major Site Plan Modification (MSPM 17-007) for a one-story, 51,258 square foot inpatient medical facility with memory care and related site improvements at 3005 S. Congress Avenue, in the C-3 (Community Commercial) zoning district. Applicant: Joni Brinkman, Urban Design Kilday Associates.

Shana Bridgeman, Assistant City Attorney, reviewed the item and administered an oath to all those intending to testify.

Joni Brinkman, Urban Design Kilday Studios, on behalf of the applicant, Courtyard Gardens of LLC, introduced the applicant's representatives, the Gazzo family who were present, along with Dr. Peck. The Architect, Jim Williams, AW Associates, Leo Urban, Urban Associates and Ryan Wheeler, Engineer from Caufield and Wheeler were also present. The project is located on the northeast corner of N. Charter Drive and Congress Avenue. The vacant property is just south of the Manor Care skilled nursing facility. The request was for a Major Site Plan Amendment for a proposed 51,250 square-foot inpatient medical facility for Alzheimer's and dementia care patients providing transitional and more intense treatments. The facility will have 150 beds, 80 units with outdoor areas, courtyards and verandas. They used the prior location of a building that was demolished after the hurricanes in 2009. The site was originally approved in 1988 as part of the Manor Care facility. It already had a 120 bed assisted living facility on the property. The property was purchased in 2009 by Sandy Slomen, who was approved for an autism center, however, the approval lapsed and later, an in-house patient detox facility application was denied. The open space areas between the east and west side of the facility will be maintained and will provide oversized setbacks from the residential multi-family homes to the west and from Congress Avenue. Access from Congress Avenue is through a shared ingress, egress easement with Manor Care. There is shared parking to the north and outside the property boundary, but there is a cross-parking access agreement. They will maintain two driveway entrances off Charter and the front parking area will be used by visitors with employee parking behind the facility. There is an interior courtyard and the facility has security. Sixty parking spaces were required and 73 spaces were provided. The applicant committed to follow upcoming rules from the Legislature regarding nursing homes, and to provide a generator to maintain the entire operation of the facility. It is in design and the applicant was committed to using that design. The Legislature is also working on rules.

The building was a one-story building. There is an existing wall to the west that was required when the previous building was constructed that will be maintained and landscaped on both sides. There will be considerable landscaping in the front of the building and 50% of the land area will be green space and there is a dry retention pond. Other building elevations were viewed. Ms. Brinkman advised they went over and above the required security. Staff agreed the security was adequate, and she requested the Board support the approval.

Commissioner McCray thought the safeguards were appropriate. He asked about a fence and learned the entire facility would not be fenced. Due to the cameras around the facility and the entering and leaving protocols, there was no need to enclose the entire facility. There will also be cameras in all hallways. Commissioner Casello received confirmation the surrounding property owners were contacted. Ms. Brinkman added when they started working with the Gazzo family, they impressed it upon them to reach out with the neighbors. Outreach occurred early on including Hunters Run. The generator they plan to obtain has to operate at least all of the air conditioning needed to cool the facility.

Commissioner Romelus asked what sustainable green elements were used for the building and learned the building was not LEED certified.

Jim Williams, AW Architects, explained they incorporated elements such as a light colored roof, and a white membrane roof in the flat roof area. The walls to window area was studied and they used Low-E Glass. Shading from the landscaping is also an important component and warm LED lighting will also be used. He explained certification is an expensive process, which takes a year after the project is operational. Commissioner Romelus asked if the rooms have natural light and learned they did. There is a serenity type garden in the courtyard and plenty of green space and light.

Mayor Grant opened public comments.

Susan Oyer, 140 SE 27th Way, complimented the team on removing and shifting the existing trees and liked the project overall. She noted 77% of the trees are palms and the rest are shade. She thought there were excessive palms and she favored shade trees and hoped the City Commission would support more shade trees. She also commented there was room for solar energy to be incorporated in the project and wanted the City to be progressive as there is room for solar panels on the rooftop, only even if it offsets lighting by the front door. She commented there are no electric vehicle charging stations and questioned why no charger spaces were included. She thought it would an issue in the future as visitors may have electric vehicles and added she was only requesting one station.

Leo Urban, Urban Associates, explained they kept all the existing trees and there are alot of shade trees. The plant list showed there are palms around the building to reduce hurricane damage. The rest of the site is covered with trees. Ms. Oyer commented Mr. Urban did not include the percent of shade trees to palm trees which other developers

have been doing. There are only 23 existing shade trees out of 101 total trees. The native Sabal Palms were moved on site. They relocated an Oak tree and added Palms only around the perimeter of the building and various native buttonwoods in areas where there was not a lot of room to plant them as there are huge trees on site. He announced they met the City's requirements.

Jim Williams also responded he has used photovoltaics on some of his projects and they are difficult to use and be cost effective. The projects they used them on were large government projects with huge grants from the Department of Energy, which they cannot obtain. The payback on a straight financed photovoltaic system would occur over many more years than an investor would want and it is difficult to make it cost effective for a commercial building. The rooftop that would be available would be the flat roofed areas and they have high efficiency air conditioning equipment, which uses a lot of square footage. There is a hood exhaust system that has to meet a 10-foot separation requirement and the roof area will be packed. As to parking, they were almost over parked. There is the cross-access parking agreement so parking will be available during the holiday season, and there was no Code requirement for the electric vehicle charging stations.

Commissioner Casello liked the project and favored the electric vehicle charging stations. He asked how many handicapped parking spaces were available and learned there were four which was sufficient. There was also a covered drop off area at the front entrance. Commissioner Casello advised he would not approve the project without the electric vehicle charging stations and he wants to see the generator's installation in writing. The facility is a for-profit facility that will create about 100 jobs.

Commissioner McCray praised the project and thought other facilities should include generators and check on other facilities that do not.

Mayor Grant noted they have to spend 1% for public art. Ms. Brinkman noted Mr. Urban would work on placing art on the property. Mayor Grant noted the art has to be in the public's view, but was fine with art in the courtyard because patients would rarely leave the building. He also pointed out Barrier Free Park was within walking district. He asked if management would take patients to the park and learned they would remain at the facility. Mayor Grant wanted to ensure there was ample recreation within the Center and learned there will be a salon, library and theater.

Dr. Peck explained he owns a similar facility in Jupiter called Courtyard Gardens that has a beautiful courtyard for the patients to enjoy without going outside. The patients cannot exit the building as there are codes on all the doors and the security has to be there which is why they design the courtyards they have. The Jupiter facility was built 18 years ago when Dr. Peck saw there was no place for these patients to go except for skilled nursing facilities. He decided to take 20 beds, segregate the patients and give them their own dining and garden areas and the 20 beds grew to 60 beds. It was an innovation in the field of dementia care. In reference to the air conditioning, he had told Mr. Gazzo before

the hurricane occurred, they will have a generator of sufficient size to take care of everything in the building and the generator will turn on automatically when the power shuts off.

Mayor Grant advised he supported the car chargers. He wanted people to know the building is a green building. Mr. Peck announced the air conditioner will use green biodiesel fuel.

Commissioner McCray asked about security in Jupiter and learned there was never a problem. Commissioner Casello asked how medication would be dispensed and learned an RN will handle the medication in a clinic area each morning based on doctor's orders. The facility is licensed as an assisted living facility and the RN dispensing the medications meets the requirements.

Vice Mayor Katz noted the surrounding community had concerns about traffic. Ms. Brinkman reiterated employee parking was behind the building and will occur on a shift basis. Additionally, a parking and traffic analysis was submitted to the County. Vice Mayor Katz asked about traffic during peak hours Ms. Brinkman did not anticipate any traffic issues.

Commissioner Romelus asked if they would commit to hire locally when possible and learned they would. Some type of an announcement would be made. Commissioner Romelus noted South Tech was right across the street that has medical field students.

Motion

Commissioner Romelus moved to approve. Commissioner Casello seconded the motion including the stipulations discussed, which were the two car chargers and a full operational generator and local hiring.

Vote

The motion unanimously passed.

G. **PROPOSED ORDINANCE NO. 17-030- FIRST READING -** Approve 711 North Federal Highway Abandonment (ABAN 17-007) request allowing the abandonment of a portion of the alley immediately west of 711 North Federal Highway, and immediately north of NE 6th Avenue. Applicant: Michael Simon, Executive Director of the Boynton Beach Community Redevelopment Agency (CRA).

Attorney Bridgeman read Proposed Ordinance 17-030 by title only on first reading and administered an oath to all those intending to testify.

Theresa Utterback, CRA Development Services Manager, presented the item. Mayor Grant asked if there would be a sidewalk on the south side of the property and learned there would. There would be lighting improvements on 6th Avenue as well.

Commissioner McCray inquired where Mr. Simon, Executive Director, and Assistant CRA director Thuy Shutt were and learned they were at a Florida Redevelopment Agency Conference in Daytona Beach with some members of the CRA Advisory Board.

Commissioner Casello asked if Mr. and Mrs. Woods were actively starting construction and learned they have not as the Purchase and Development Agreement will be before the Board in November.

Mayor Grant opened the item for public comment. No one came forward.

Motion

Commissioner McCray moved to approve. Commissioner Romelus seconded the motion.

Vote

City Clerk Pyle called the roll. The motion passed 5-0.

H. **PROPOSED ORDINANCE NO. 17-031 - FIRST READING** - Approve amendments to the LAND DEVELOPMENT REGULATIONS, Chapter 1, Article II, Definitions and Chapter 3, Article IV, Section 3.D, Table 3-28, Use Matrix and Footnote #57 to add definitions, use provisions, and standards that regulate the medical marijuana dispensary industry.

Attorney Bridgeman read proposed Ordinance No. 17-031 by title only on first reading.

Andrew Mack, Development Director announced the purpose of the Ordinance is to establish regulations for medical marijuana dispensaries in the interest of public health and safety and to ensure patients who qualify to obtain, possess and consume medical marijuana have access to the drug under State law. He reviewed the State preemptions to not place specific limits on the number of dispensaries, or enact regulations or restrict locations for dispensaries that are more restrictive than for pharmacies. The City cannot charge a fee greater than the fee charged to pharmacies and cannot be within 500 feet of schools. He reviewed definitions of a Medical Marijuana Treatment Center as a facility to operate in accordance with the State Department of Health that dispenses the product to qualified patients or caregivers, noting that the dispensing facility does not prepare transfer, cultivate or process any form of marijuana or marijuana product. Distance restrictions are the same as for pharmacies. He reviewed the proposed zoning matrix as contained in the PowerPoint presentation listing the districts where the use is allowed, which also corresponds to districts where pharmacies are allowed. The gross floor area cannot exceed 5,000 square feet in the C-1 District or exceed 10,000 square feet in the

C-2 District. He reviewed general notes detailing the facility must be integrated into Mixed Use buildings or developments. It cannot exceed more than 50% of the gross floor area of any building and/or exceed 20% of the gross floor area for developments in the PID District. Facilities in Mixed Use districts must be integrated into Mixed Use buildings and cannot be more than 50% of the gross floor area of any building and/or exceed 30% of the gross floor area of any development.

Facilities in Mixed Use 1, 2 and 3 Districts are permitted on lots fronting arterial or collector roadways. As a general note in the PID District, facilities are allowed in land located in Nixed Use land fronting arterial roadways or if the development order is not solely for residential development. Staff proposed to add a medical marijuana dispensing facility may not be located within five hundred (500) feet of the real property that comprises a public or private elementary school, middle school or secondary school and he reviewed the distance separation in the Mixed Use 4 and Mixed Use High districts.

Commissioner Casello asked about the average square footage of a dispensary and learned it is usually under 5,000 square feet. There are performance standards in the Statute that restricts hours of operation, where the seating would be and how staff are handling cash, which the State would inspect and enforce. Mayor Grant asked if treatment centers allow edibles and learned not on site. The facility is strictly a pharmacy. When it is produced at the Medical Marijuana Treatment Center (MMTC), which is where the seed to sale occurs, it is shipped to a facility where it is dispensed just like a pharmacy. Mr. Mack explained MMTCs and advised, the City was not approving growing marijuana, only a dispensary. There are specific requirements to grow. Currently, there were seven requirements and another three requirements were pending. Each MMTC is only allowed to service a total of 25 dispensaries.

Vice Mayor Katz explained the limitations on how many locations statewide an operator can open addressed concerns about mass proliferation. Mr. Mack understood they are allocated per region based on population and there are regulations, but it was possible two growers could be next to each other, depending on the zoning district.

Mayor Grant opened public comment.

Edward Tedtmann, 869 NW 8th Avenue, asked if dispensaries could sell other items or were limited to only selling medical marijuana. Mr. Mack explained the dispensaries may not dispense any other types of cannabis, alcohol, illicit drug related products including pipes, bongs, wrapping papers other than marijuana delivery service. They can only sell what is required to dispense the medicine. Mr. Tedtmann commented pharmacies sell a variety of products. Mr. Mack explained there is a separate license for a pharmacy. A pharmacy cannot dispense medical marijuana. Mayor Grant asked if a pharmacy could sell products as seen on TV. Mr. Mack did not think it would be permitted.

Dr. Jeff Eder, Orthodontist in Boynton Beach, had concerns about the concept as there are issues with medical marijuana. He explained there are only two forms of medical

cannabis approved by the FDA prescribed for use and there is no actual evidence to support marijuana does anything for its patient in its typical form. The CDC and American Medical Association all have real information on the website about the issue and bringing this to Boynton Beach, as a practitioner, is problematic because they have no information about it. He believes good will result from marijuana trials, but the proof is not there yet and he thought the issue was premature. He felt the people operating these facilities are not medically trained or pharmacists, and are lay people who are in it for the money. Marijuana causes lung and mouth cancer. He understood they are allowed to have satellite locations over which the City will have no control if approved and there will be vape shops. He had an ethical problem as he felt this issue was rubber stamped. He took an oath to do no harm and contended when a doctor prescribes marijuana, they do not know about the dosage and the concentration varies. He thought they were opening a Pandora's Box and opening the door for the recreational use of marijuana as it has in every other state down the road.

Mayor Grant responded five states allow recreational marijuana and 26 states allow for medical marijuana. The use is permitted by the constitution and a super majority voted for it. It does not matter if the City has a dispensary or not as anyone can have the product delivered. Having a dispensary in the City allows residents to talk to a doctor. Since marijuana is federally banned as a controlled one substance, there is no data or proof it cures or helps any ailment. He spoke to the sheriff and police officers and they indicated marijuana does not make one combative as opposed to alcohol.

Dr. Eder explained the use was approved by the voters, but every other medication had to be approved through the FDA. He pointed out this slipped through and noted there is an opioid problem. Marijuana was being approved and he thought it was part of the problem. Mayor Grant pointed out the voters have the ability to change the constitution by a 60% majority. This initiative failed in 2014. Palm Beach County favored it by 75%. He agreed lay people made the decision.

Commissioner Casello asked if the dispensary could sell anything that could be smoked. Mr. Mack understood it was still undetermined. Commissioner Casello thought there have been studies that it does provide some type of benefits for certain diseases. He expressed at some point it will be totally legal in all states and agreed if not for anything else, it will be a money making operation. The Constitution says it is legal and voters approved it. Dr. Eder advised the studies were based on non-scientific methodologies and are entirely anecdotal. He explained the efficacy of drugs has to be scientific. There is no evidence it meets the standards for FDA approval. He asserted individuals were being bluffed into fake news/science. The evidence is not there yet, but he believed it would come.

Commissioner Casello asked about alcohol. Dr. Eder explained it is a drug. The difference between medication and poison is dosage. There have been situations where patients took medical marijuana and they hurt or killed themselves. One guy jumped off balcony and a woman shot her child after taking medical marijuana. He explained there

are ramifications and it is difficult to detect. If someone is stopped for a DUI, there is no way to measure it.

No one else coming forward, public comments was closed

Vice Mayor Katz had spoken with Dr. Eder earlier and appreciated his willingness to speak on the issue and contribute. Commissioner Casello agreed.

Commissioner Romelus supported the move in terms of doing things to help improve the quality of life for patients, but noted the City lost its ability to legislate the way these facilities come into the City. Cities should control its licenses, the number of facilities and others. She felt the City's authority was usurped and due to that fact, she would not support it.

Commissioner McCray appreciated Dr. Eder's comments and advised he would not vote in favor.

Motion

Vice Mayor Katz moved to approve. Commissioner Casello seconded the motion.

Vote

City Clerk Pyle called the roll. The motion passed 3-2 *(Commissioners McCray and Romelus dissenting.)*

10. CITY MANAGER'S REPORT

A. Discussion of process of selling city owned land requested by Vice-Mayor Katz.

Ms. LaVerriere advised at the request of Vice Mayor Katz, staff included an ordinance in the meeting materials. Prior to 2012, the City was required to place land out to public bid in order to dispose of it. The City amended the Ordinance in 2012, to use a realtor instead as the land price was low balled using the bid process. The current process allows buyer, if someone is interested in buying land, to send her a letter which she reviews and brings to the City Commission. The City can hire a broker, similar to the process used by the CRA to acquire land, and the City would not be named as a party. It helps the negotiations. There were a few sites the Commission had discussed selling in the past and one was by Leisureville.

Vice Mayor Katz explained Habitat for Humanity was interested in the site to the east of Leisureville and he had spoken with Leisureville, who was interested in obtaining the site. The third option was to use a broker. The parcel the City owns can fit 10 to 11 single family detached homes. Leisureville residents want to buy the entire parcel, but could not afford the entire parcel.

(Commissioner Casello left the dais at 9:23 p.m.)

(Commissioner Romelus left the dais at 9:24 p.m.)

He was in favor of allocating the property, particularly the south end which is locked between existing Leisureville structures to them for free or a nominal price and list the remainder of the property with a broker for development. He commented the City could generate a couple of $100,000 if there was a buyer. He thought the market would support it and the homes in Leisureville sell in the $200,000 range. He was looking for staff to review the parcel and see what portion Leisureville could use to expand. They were interested in using the property for a recreational facility or for a fenced-in dog park and then brokering the remainder of the property.

(Commissioners Casello and Romelus returned 9:26 p.m.)

Mayor Grant favored interested parties contacting the City Manager. He noted Leisureville spoke to Vice Mayor Katz, but to no one else. If someone is interested in City or CRA land, they should issue a letter of intent and they discuss it and see if anyone else is interested in the property. They could also use an RFP. Commissioner McCray wanted to discuss maps 171 and 172, which is the Rolling Green Municipal Complex. Citizens have informed him it is poorly kept, and rats leave the property and go to the neighboring homes. Mayor Grant inquired if there were any improvements planned. He also noted the Public Works location was becoming cramped.

Colin Groff, Assistant City Manager, explained it is a difficult site to develop as it is behind the neighborhood and there is only access through the neighborhood. If the City Commission wanted, staff could bring back plans for that site. It is currently used and the City has to have a place to store dumpsters and carts. The other element is to have thee party write the City Manager a letter and staff will develop a plan to bring back to the City Commission.

Mayor Grant noted there are parklands available and the City will work with anyone who wants to help build parks.

Commissioner McCray clarified, in reference to the two parcels he spoke of, the City is not interested in moving Public Works to that location. The community was still waiting for another location to be found for Public Works.

Commissioner Casello noted there were a few properties by Nickels Boulevard. Mr. Livergood explained the property was part of a land swap with Westside Baptist Church 25 years ago. He commented people who are interested in vacant land cannot approach the City and Palm Beach County was part of the process. The property is deed restricted and must be for public use. There were other discussions with the County. The property was supposed to be for housing and there is a process to follow.

Commissioner Casello asked why it was taking 25 to 30 years to have that discussion. Ms. LaVerriere responded it was fear of resistance from the neighborhood. Commissioner Casello thought it should be discussed and a strategy developed. As it pertained to the Nickels property, the City would have to speak with the County to remove the deed restrictions.

Mr. Groff explained he has a list and received comments on two of the properties. The City would contact Leisureville and bring it back to the Commission and also investigate the Rolling Green parcels.

Mayor Grant explained if the Nickels property is a public use, the dumpsters could go there. Commissioner McCray commented they could build more homes to fill up the neighborhood. There is a redevelop opportunity on the Rolling Green site.

Vice Mayor Katz had an inquiry about the scrub parcel behind the baseball diamond at Galaxy Elementary School adjacent to I-95. Ms. LaVerriere explained staff would have to review it and was aware there are tortoises there.

Commissioner Romelus asked about plans for Girl Scout Park. Mr. Groff explained there are restrictions on the property and staff has been approached by private companies to develop the park. He clarified the discussions were not just to develop the park, it was to develop a Trust to maintain the park. Staff started the ball rolling to determine interest to installing a passive park to fit the neighborhood. The Recreation and Parks Advisory Board tours the parks each year and establishes priority areas to address. Ms. LaVerriere explained there has been a lack of funding.

Commissioner Romelus thought they could allocate Surtax funds for capital projects and wanted to see it developed. Mr. Groff advised staff will bring information back as they develop. Mr. Livergood pointed out there are park impact fees to assist and advised the Surtax funds have already been allocated for maintenance of existing land. Commissioner Romelus clarified she was referencing capital funds that would have been used for infrastructure that are now available due to the surtax funds. Ms. LaVerriere explained most of the capital funds were not available and that was why the work was not done. There is not a lot of money, but staff will review it and discuss it in the new budget year. Ms. LaVerriere explained there is a new member of the Greater Boynton Beach Foundation who lives in that area who is interested in fundraising opportunities and making improvements at Girl Scout Park.

Commissioner Casello asked how many parks the City has. Wally Majors, Recreation and Parks Director, responded there are 29 developed and 7 undeveloped parks. He explained this discussion took place when the Department presented its Master Plan. The focus was to maintain what the City has and to take advantage of grants and partnerships to develop and maintain parks to alleviate the burden on the General Fund. He pointed out parks are there because the City is going to continue to grow. The Comprehensive Plan mandates the City set aside 2.5 acres per 1,000 residents for parks and the City is

close to that level. Commissioner Casello asked if the City was in a positon to maintain its 29 parks properly.

Mr. Livergood responded the City struggles with maintenance and was happy with the surtax. Commissioner Casello felt if the City cannot maintain the sites, it is land without a purpose. Mr. Livergood explained it is part of recreation.

Commissioner McCray asked how much money in parks impact fees was available and learned it was about $500,000. Mr. Majors explained the funds are to be used for park development or improvements and the first place to look is the area where the impact fees from the development were collected. If there is no need for an improvement or a park in that area, then staff can look at parks with a district service area. He noted staff was making improvements at Barrier Free Park with the funds.

Commissioner McCray wanted the amount and a copy of the Ordinance. Commissioner Casello explained the City was spending $1.3 million at Sara Sims Park and has no plan how to maintain it after they spend the funds. He favored maintaining parks to the highest standards and if they could not, they should not make the land a park.

Mr. Livergood advised the Nickels Road, Leisureville, Rolling Green and the Galaxy Scrub area items will return to the Commission at different times. Commissioner Casello requested researching Meadows Park as well.

B. Presentation of FY 17/18 Strategic Plan Initiatives by Trina Pulliam.

This item was previously addressed.

11. UNFINISHED BUSINESS - None

12. NEW BUSINESS

A. **PROPOSED RESOLUTION NO. R17-099** - Approve and authorize the First Amendment to the Homeless Resource Center Interlocal Agreement with Palm Beach County.

B.

Ms. LaVerriere explained the item is an Interlocal Agreement with the Homeless Resource Center, known as the Lewis Center, and the agreement addresses protocol when the City encounters a homeless person and transports them to the Center. She advised most homeless decline to go and the item is a housekeeping item. The City agrees to pay the cost of the transport and the amendment is to add language pertaining to the Inspector General and a discrimination clause.

Commissioner McCray asked about panhandlers on the entrance ramp to I-95. Jeff Katz, Police Chief, responded those individuals are often homeless and they are not supposed to panhandle on entrance and exit ramps on the Interstate. Commissioner McCray asked

who cleans up after them as the City is trying to enhance its image and there are bags of trash. He noted City trucks ride by and he thought they should stop and pick up the trash. Mr. Livergood responded it is FDOT land and it is their responsibility to keep it clean. Mr. Livergood explained they do hire a contractor to go to exit ramps where people stop at the light and throw out garbage, but it is frustrating. The City has garbage collectors, not litter pickers. Picking up litter is a very time intensive task.

Mayor Grant asked what recourse the City has to stop panhandlers. Chief Katz explained Officers can stop them, field interview them and in some instances arrest them, but it is a matter of resources and priorities. Mayor Grant suggested policing the situation between 4 p.m. and 6 p.m. and 7 a.m. and 9 a.m. Commissioner Casello saw a panhandler walking down the off-ramp from I-95 off Gateway who was barefoot and dazed with a sign asking for food. He asked who to call to report him and was advised he could call the Police Department or *FHP. He had also noted another person on the overpass making zen-type moves and an officer drove by. Commissioner Casello was concerned and called to have someone check on the person.

Motion

Commissioner McCray moved to approve. Commissioner Casello seconded the motion.

Vote

The motion unanimously passed.

C. Commissioner Casello has requested to discuss the possibility of adding a monthly report on the Red Light Camera program to the consent agenda.

Commissioner Casello requested the City Commission receive a quarterly report on the expenses to be approved each quarter regarding the Red Light Camera program for the sake of transparency. He proposed the report detail what is occurring with the cameras, increases or decreases in accidents that occurred, and a breakdown of the revenues generated. The report will be put on the Consent Agenda. Mayor Grant was fine with a quarterly report. He noted the monies increased, but so did the population. He favored the report be given on a percentage basis and not a number basis. Chief Katz agreed. Commissioner McCray requested someone check on the red light by the school Mr. Garcia had mentioned and give him a report and thought there should be a resolution to obtain a countdown timer. Chief Katz explained they would have to contact the County Engineer as the City has nothing to do with the timing of the lights. Mayor Grant clarified he wanted a traffic counter to advise individuals how much time pedestrians had to cross. Mr. Livergood approached the County and advised they are not in favor of the timers on their signals. Ms. LaVerriere had also been speaking with Mr. Garcia about the timer. Mayor Grant commented they would have to lobby the County Commission.

Attorney Bridgeman explained the County controls the signals, but the timing of the traffic signals is set by the State. The reason why the County is hesitant to use the countdown timers on the signal is because how long the timing is for yellow and red often fluctuates and changes each year. Mayor Grant explained it is an expensive piece of equipment, but is something the City may be able to obtain. Mayor Grant asked if the City was working with the County controlling the traffic flow regarding Pirates Fest. The West Palm Beach police work well with the County Engineer to assist exiting attendees after an event, versus the Sheriff's office at the County Fairgrounds. Chief Katz replied they have a comprehensive plan to deal with a lot of issues related to traffic and safety.

Commissioner Casello noted the State could change the timing of the lights and asked if the 15 Red Light Cameras, depending on traffic flow, are altered. Attorney Bridgeman explained it was not traffic flow that determines a light's duration. It is the speed limit on the road. The higher the speed limit, the longer the yellow light. Four years ago, the State changed it and Broward did not change their timing immediately. Some counties do not change them as quickly as they should and it is hard to keep track. It is important to ensure the vehicle has enough time to stop. Commissioner Casello thought there may be a correlation. Mayor Grant requested the Commission receive a copy of the Statute from Attorney Bridgeman.

Commissioner Romelus wanted to know why Mr. Livergood was opposed to the timers. Mr. Livergood explained he thought it was a human behavioral issue. The more they distract motorists and give them more things to watch, the more it impacted accident rates. Motorists do anything they can to game the system. As a professional engineer, he thought it was best to maintain national standards in the operation of traffic signals so there is consistency throughout the country.

There was consensus for a quarterly report to be provided.

13. LEGAL

A. Pursuant to Section 286.011(8), Florida Statutes, the City Attorney is requesting a private attorney-client session of the City Commission to discuss pending litigation in the following case:

1. HASAN CALISKAN, Plaintiff vs. CITY OF BOYNTON BEACH, Defendant – Case No. 50 2015 CA 008096XXXXMB

Attorney Bridgeman read the above captioned case. Present at the meeting would be James Cherof, City Attorney; Tracy DeCarlo, Assistant City Attorney; Lori LaVerriere, City Manager; a court reporter; the Mayor and City Commission. About 30 minutes would be needed. She requested the shade session occur on November 7th, before the next City Commission, because the trial is scheduled to commence the following week. Mayor Grant noted they would have a meeting from 4 p.m. to at least 6:30 p.m. Dinner will be

provided. The session will be held at the same time as the workshop. Ms. LaVerriere will apprise all of the meetings.

14. FUTURE AGENDA ITEMS

A. Staff to review and report concerning Florida Textile Recycling, LLC. FTR, LLC which provides automated clothing recycling as a non-profit corporation and provides funding to agencies for other non-profit uses - **November 7, 2017**.

B. Staff will prepare a list of legislative priorities for the 2018 legislative session for the Commission's input and approval. - **November 7, 2017**

C. Update from Boynton Beach Mental Health Committee by the Chair, Woodrow Hay – **November 7, 2017**.

D. Discussion of number of boards people are allowed to serve on at one time, attendance policies, eligibility rules and qualification of members for all boards. - **November 7, 2017**

E. The Commission has requested for a representative of ATS attend a commission meeting to discuss possible additional features/services - **TBD**

F. Staff to research possibility of allowing dogs at the beach during certain hours and bring back to Commission – **TBD**

G. **PROPOSED ORDINANCE NO. 17-021 - SECOND READING** - Approve Town Square Future Land Use Map Amendment from Public and Private Governmental/Institutional (PPGI) and High Density Residential (HDR) to Mixed Use Medium (MXM) and rezone from PU Public Usage, REC Recreation and R-3 Multifamily to MU-3 Mixed Use 3 zoning district. City-initiated.***(First Reading approved 8/15, Second Reading Pending Fl. Dept. of Economic Opportunity approval, which takes approximately 2 to 4 months.)***

PROPOSED ORDINANCE NO. 17-022 - SECOND READING - Amending Ordinance 02-013 to Rezone a Parcel of Land Described Herein and Commonly Referred to as Town Square From Public Usage (Pu); Recreation (Rec) And Multifamily (R-3) to Mixed Use 3 (Mu-3).

Commissioner Romelus requested quarterly reports on the surtax be provided. Ms. LaVerriere responded the Surtax Committee meets once during the year and at the close of the year has an audit. Staff can provide a quarterly report including revenues to-date and projects underway or completed.

Commissioner Romelus also wanted the City Commission to consider a Resolution in support of Senate Memorial 442 and House Memorial 263, which are memorials in

support of extending temporary protected status for Haitian Americans living in the U.S. She noted there are about 58,000 Haitians impacted and January 22nd is the deadline when they have to return to Haiti. She advised the country is not yet ready to support them and they recently were impacted by the category four hurricane and a cholera outbreak. She requested support of the Resolution that the Florida Legislature is sending to the President. Commissioner Romelus will obtain a copy of it for the next agenda.

15. ADJOURNMENT

Motion

There being no further business to discuss, Commissioner Casello moved to adjourn. Commissioner Romelus seconded the motion.

Vote

The motion unanimously passed. The meeting was adjourned at 10:07 p.m.

(Continued on next page)

CITY OF BOYNTON BEACH

_____
Mayor - Steven B. Grant

_____
Vice Mayor - Justin Katz

Commissioner - Mack McCray

Commissioner - Christina Romelus

ATTEST

Commissioner - Joe Casello

Judith A. Pyle, CMC
City Clerk

Catherine Cherry
Minutes Specialist

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-108 - Authorize the City Manager to sign an annual service agreement with Motorola, Inc. in the amount of $117,320 for the continued maintenance and repair of the City's radio telecommunications systems as a sole source vendor.

EXPLANATION OF REQUEST:
Service Agreement: December 1, 2017 - November 30, 2018

The City maintains a radio telecommunications system that provides the Police Department, Fire/Rescue Department and other local government entities with radio communications. The Motorola Company manufactured and installed our current system which consists of computer consoles, portable radios, antennas and operational readiness. The City has had a relationship with Motorola spanning more than 25 years and this request is for an annual maintenance agreement for Motorola to provide monitoring and diagnostic services along with the replacement or repair of any defects to the infrastructure, computer equipment, and radio repair and updates required. While Motorola has the option to subcontract radio maintenance to an authorized Motorola subcontractor, the Communications infrastructure (consoles, repeaters, etc.) are serviced and maintained by Motorola directly. Authorized subcontractors of Motorola (i.e. Control Communications) will not contract with entities directly as their work orders are routed through Motorola.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? This service agreement ensures that public safety and relevant local government entities can maintain radio communications which is critical to the provision of services to the community.

FISCAL IMPACT: Budgeted Budgeted Funds have been included in the FY 2017/18 Proposed Budget in line item 001-2112-521.46-24.

ALTERNATIVES: Radio communications are mission critical to the public safety function. The maintenance contract is required to insure continued operations of the system.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CONTRACTS

VENDOR NAME: Motorola Solutions

START DATE: 12/1/2017

END DATE: 11/30/2018

CONTRACT VALUE: $117,320

MINORITY OWNED CONTRACTOR?: No

EXTENSION AVAILABLE?: No

EXTENSION EXPLANATION:

ATTACHMENTS:

Type	Description
Resolution	Resolution approving the Service Agreement with Motorola
Contract	Motorola Renewal Contract

RESOLUTION NO. R17-

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, APPROVING AN ANNUAL SERVICE AGREEMENT WITH MOTOROLA, INC., PROVIDING FOR THE CONTINUED MAINTENANCE AND REPAIR OF THE CITY'S RADIO TELECOMMUNICATIONS SYSTEMS AS A SOLE SOURCE VENDOR IN THE AMOUNT OF $117,320; AUTHORIZING THE CITY MANAGER TO SIGN THE AGREEMENT; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City maintains a radio telecommunications system that provides the Police Department, Fire Rescue Department and other local government entities with radio communications; and

WHEREAS, Motorola, Inc., manufactured and installed our current system which consists of computer consoles, portable radios, antennas and operational readiness; and

WHEREAS, the City has a twenty-five year relationship with Motorola; and

WHEREAS, the City Commission of the City of Boynton Beach, Florida , upon the recommendation of staff, deems it to be in the best interests of the City residents to enter into a Service Agreement with Motorola, Inc., for the continued maintenance and repair of the City's radio telecommunication systems.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof.

Section 2. The City Commission of the City of Boynton Beach, Florida hereby

approves the Service Agreement for the continued maintenance and repair of the City's radio system between the City of Boynton Beach and Motorola, Inc., in the amount of $117,320.

Section 3. The City Manager is authorized to sign the Service Agreement, a copy of which Agreement is attached hereto as Exhibit "A."

Section 4. This Resolution shall become effective immediately upon passage.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

MOTOROLA SOLUTIONS

SERVICES AGREEMENT

Attn: National Service Support/4th fl
1301 East Algonquin Road
(800) 247-2346

Contract Number: S00001000428
Contract Modifier: RN20-JAN-17 08:59:21

Date: 01/23/2017

Company Name:	Boynton Beach, City Of
Attn:	
Billing Address:	100 E Boynton Beach Blvd
City, State, Zip:	Boynton Beach,FL,33435
Customer Contact:	
Phone:	

Required P.O.:	No
Customer # :	1000303040
Bill to Tag # :	0001
Contract Start Date:	12/01/2017
Contract End Date:	11/30/2018
Anniversary Day:	
Payment Cycle:	MONTHLY
PO # :	

QTY	MODEL/OPTION	SERVICES DESCRIPTION	MONTHLY EXT	EXTENDED AMT
		Total Services	$9,776.67	$117,320.04

SPECIAL INSTRUCTIONS - ATTACH STATEMENT OF WORK FOR PERFORMANCE DESCRIPTIONS

Subtotal - Recurring Services		
Subtotal - One-Time Event Services		
Total	$9,776.67	$117,320.04
Taxes	-	-
Grand Total	$9,776.67	$117,320.04

THIS SERVICE AMOUNT IS SUBJECT TO STATE AND LOCAL TAXING JURISDICTIONS WHERE APPLICABLE, TO BE VERIFIED BY MOTOROLA.

MAINTENANCE CONTRACT INCLUDES THE FOLLOWING SERVICE PRODUCTS: DISPATCHING, TECHNICAL SUPPORT, NETWORK MONITORING, INFRASTRUCTURE REPAIR WITH ADVANCED REPLACEMENT, ON SITE INFRASTRUCTURE RESPONSE, LOCAL RADIO COMBO PACKAGE, SECURITY MONITORING AND SECURITY UPDATE SERVICE FOR RADIO SYSTEM AND SUBSCRIBERS.

The prices quoted via this service contract renewal are valid only until expiration of the current service contract. If Customer does not provide to MSI a valid, executed contract renewal within 30 days of contract expiration a one-time administrative fee equal to 5% of the subsequent years annual contract rate will be billed to the Customer upon reestablishment of the expired service contract. Pricing on the 5% Administration fee once delinquent = $913.00

Subcontractor(s)	City	State
MOTOROLA SOUTH FLORIDA FSO	PLANTATION	FL
MOTOROLA SYSTEM SUPPORT CENTER	ELGIN	IL
MOTOROLA SSC NETWORK SECURITY DO298	SCHAUMBURG	IL
MOTOROLA SYSTEM SUPPORT CENTER-NETWORK MGMT DO067	SCHAUMBURG	IL
MOTOROLA SYSTEM SUPPORT CTR-CALL CENTER DO066	SCHAUMBURG	IL
MOTOROLA SYSTEM SUPPORT-TECHNICAL SUPPORT DO068	SCHAUMBURG	IL

I received Statements of Work that describe the services provided on this Agreement. Motorola's Service Terms and Conditions, a copy of which is attached to this Service Agreement, is incorporated herein by this reference.

AUTHORIZED CUSTOMER SIGNATURE	TITLE	DATE
CUSTOMER (PRINT NAME)		
MOTOROLA REPRESENTATIVE(SIGNATURE)	TITLE	DATE
Cindee Markes	954-723-4718	
MOTOROLA REPRESENTATIVE(PRINT NAME)	PHONE	

Company Name: Boynton Beach, City Of
Contract Number: S00001000428
Contract Modifier: RN20-JAN-17 08:59:21
Contract Start Date: 12/01/2017
Contract End Date: 11/30/2018

Customer: Boynton Beach, City of Effective: 12/1/2017

Contract #: S00001000428

Qty	Equipment Description
5	MCC7500 consoles
5	GTR8000 Repeaters
227	APX6000 Model 2.5
85	APX6000 Model 1.5
19	APX4000 Model 2.5
128	APX6500 Mobile
6	APX7500 Consolettes

See attached serial number list for subscribers included

Contract includes 1 Annual Preventative Maintenance Inspection to be scheduled upon customer request

Contract includes local Pick up and Delivery services

Motorola Solution Service Terms and Conditions

Motorola Solutions Inc. ("Motorola") and the City of Boynton Beach, Florida ("Customer") hereby agree as follows:

Section 1. APPLICABILITY

These Maintenance Service Terms and Conditions apply to service contracts whereby Motorola will provide to Customer either (1) maintenance, support, or other services under a Motorola Service Agreement, or (2) installation services under a Motorola Installation Agreement.

Section 2. DEFINITIONS AND INTERPRETATION

2.1. "Agreement" means these Maintenance Service Terms and Conditions; the cover page for the Service Agreement or the Installation Agreement, as applicable; and any other attachments, all of which are incorporated herein by this reference. In interpreting this Agreement and resolving any ambiguities, these Maintenance Service Terms and Conditions take precedence over any cover page, and the cover page takes precedence over any attachments, unless the cover page or attachment states otherwise.

2.2. "Equipment" means the equipment that is specified in the attachments or is subsequently added to this Agreement.

2.3. "Services" means those installation, maintenance, support, training, and other services described in this Agreement.

Section 3. ACCEPTANCE

Customer accepts these Maintenance Service Terms and Conditions and agrees to pay the prices set forth in the Agreement. This Agreement becomes binding only when accepted in writing by Motorola. The term of this Agreement begins on the "Start Date" indicated in this Agreement.

Section 4. SCOPE OF SERVICES

4.1. Motorola will provide the Services described in this Agreement or in a more detailed statement of work or other document attached to this Agreement. At Customer's request, Motorola may also provide additional services at Motorola' s then-applicable rates for the services.

4.2. If Motorola is providing Services for Equipment, Motorola parts or parts of equal quality will be used; the Equipment will be serviced at levels set forth in the manufacturer's product manuals; and routine service procedures that are prescribed by Motorola will be followed.

4.3. If Customer purchases from Motorola additional equipment that becomes part of the same system as the initial Equipment, the additional equipment may be added to this Agreement and will be billed at the applicable rates after the warranty for that additional equipment expires.

4.4. All Equipment must be in good working order on the Start Date or when additional equipment is added to the Agreement. Upon reasonable request by Motorola, Customer will provide a complete serial and model number list of the Equipment. Customer must promptly notify Motorola in writing when any Equipment is lost, damaged, stolen or taken out of service. Customer's obligation to pay Service fees for this Equipment will terminate at the end of the month in which Motorola receives the written notice.

4.5. Customer must specifically identify any Equipment that is labeled intrinsically safe for use in hazardous environments.

4.6. If Equipment cannot, in Motorola's reasonable opinion, be properly or economically serviced for any reason, Motorola may modify the scope of Services related to that Equipment; remove that Equipment from the Agreement; or increase the price to Service that Equipment.

4.7. Customer must promptly notify Motorola of any Equipment failure. Motorola will respond to Customer's notification in a manner consistent with the level of Service purchased as indicated in this Agreement.

Section 5. EXCLUDED SERVICES

5.1. Service excludes the repair or replacement of Equipment that has become defective or damaged from use in other than the normal, customary, intended, and authorized manner; use not in compliance with applicable industry standards; excessive wear and tear; or accident, liquids, power surges, neglect, acts of God or other force majeure events.

5.2. Unless specifically included in this Agreement, Service excludes items that are consumed in the normal operation of the Equipment, such as batteries or magnetic tapes.; upgrading or reprogramming Equipment; accessories, belt clips, battery chargers, custom or special products, modified units, or software; and repair or maintenance of any transmission line, antenna, microwave equipment, tower or tower lighting, duplexer, combiner, or multicoupler. Motorola has no obligations for any transmission medium, such as telephone lines, computer networks, the internet or the worldwide web, or for Equipment malfunction caused by the transmission medium.

Section 6. TIME AND PLACE OF SERVICE

Service will be provided at the location specified in this Agreement. When Motorola performs service at Customers location, Customer will provide Motorola, at no charge, a non-hazardous work environment with adequate shelter, heat, light, and power and with full and free access to the Equipment. Waivers of liability from Motorola or its subcontractors will not be imposed as a site access requirement. Customer will provide all information pertaining to the hardware and software elements of any system with which the Equipment is interfacing so that Motorola may perform its Services. Unless otherwise stated in this Agreement, the hours of Service will be 8:30 a.m. to 4:30 p.m., local time, excluding weekends and holidays. Unless otherwise stated in this Agreement, the price for the Services exclude any charges or expenses associated with helicopter or other unusual access requirements; if these charges or expenses are reasonably incurred by Motorola in rendering the Services, Customer agrees to reimburse Motorola for those charges and expenses.

Section 7. CUSTOMER CONTACT

Customer will provide Motorola with designated points of contact (list of names and phone numbers) that will be available twenty-four (24) hours per day, seven (7) days per week, and an escalation procedure to enable Customer's personnel to maintain contact, as needed, with Motorola.

Section 8. PAYMENT

Unless alternative payment terms are stated in this Agreement, Motorola will invoice Customer in advance for each payment period. All other charges will be billed monthly, and Customer must pay each invoice in U.S. dollars within forty-five (45) days of the invoice date.

Section 9. WARRANTY

Motorola warrants that its Services under this Agreement will be free of defects in materials and workmanship for a period of ninety (90) days from the date the performance of the Services are completed. In the event of a breach of this warranty, Customers sole remedy is to require Motorola to re-perform the non-conforming Service or to refund, on a pro-rata basis, the fees paid for the non-conforming Service. MOTOROLA DISCLAIMS ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

Section 10. DEFAULT/TERMINATION

10.1. If either party defaults in the performance of this Agreement, the other party will give to the non-performing party a written and detailed notice of the default. The non-performing party will have thirty (30) days thereafter to provide a written plan to cure the default that is acceptable to the other party and begin implementing the cure plan immediately after plan approval. If the non-performing party fails to provide or implement the cure plan, then the injured party, in addition to any other rights available to it under law, may immediately terminate this Agreement effective upon giving a written notice of termination to the defaulting party.

10.2. Any termination of this Agreement will not relieve either party of obligations previously incurred pursuant to this Agreement, including payments which may be due and owing at the time of termination. All sums owed by Customer to Motorola will become due and payable immediately upon termination of this Agreement. Upon the effective date of termination, Motorola will have no further obligation to provide Services.

Section 11. LIMITATION OF LIABILITY

Except for personal injury or death, Motorola's total liability, whether for breach of contract, warranty, negligence, strict liability in tort, or otherwise, will be limited to the direct damages recoverable under law, but not to exceed the price of twelve (12) months of Service provided under this Agreement. ALTHOUGH THE PARTIES ACKNOWLEDGE THE POSSIBILITY OF SUCH LOSSES OR DAMAGES, THEY AGREE THAT MOTOROLA WILL NOT BE LIABLE FOR ANY COMMERCIAL LOSS; INCONVENIENCE; LOSS OF USE, TIME, DATA, GOOD WILL, REVENUES, PROFITS OR SAVINGS; OR OTHER SPECIAL, INCIDENTAL, INDIRECT, OR CONSEQUENTIAL DAMAGES IN ANY WAY RELATED TO OR ARISING FROM THIS AGREEMENT OR THE PERFORMANCE OF SERVICES BY MOTOROLA PURSUANT TO THIS AGREEMENT. This limitation of liability will survive the expiration or termination of this Agreement and applies notwithstanding any contrary provision.

Section 12. EXCLUSIVE TERMS AND CONDITIONS

12.1. This Agreement supersedes all prior and concurrent agreements and understandings between the parties, whether written or oral, related to the Services, and there are no agreements or representations concerning the subject matter of this Agreement except for those expressed herein. The Agreement may not be amended or modified except by a written agreement signed by authorized representatives of both parties.

12.2. Customer agrees to reference this Agreement on any purchase order issued in furtherance of this Agreement, however, an omission of the reference to this Agreement will not affect its applicability. In no event will either party be bound by any terms contained in a Customer purchase order, acknowledgement, or other writings unless: the purchase order, acknowledgement, or other writing specifically refers to this Agreement; clearly indicate the intention of both parties to override and modify this Agreement; and the purchase order, acknowledgement, or other writing is signed by authorized representatives of both parties.

Section 13. PROPRIETARY INFORMATION; CONFIDENTIALITY; INTELLECTUAL PROPERTY RIGHTS

13.1. Any information or data in the form of specifications, drawings, reprints, technical information or otherwise furnished to Customer under this Agreement will remain Motorola’s property, subject to the requirements and limitations for Florida’s Public Records law, pursuant to Chapter 119, Florida Statutes, will be deemed proprietary, will be kept confidential, and will be promptly returned at Motorola's request. Customer may not disclose, without Motorola's written permission or as required by law, any confidential information or data to any person, or use confidential information or data for any purpose other than performing its obligations under this Agreement. The obligations set forth in this Section survive the expiration or termination of this Agreement.

13.2. Unless otherwise agreed in writing, no commercial or technical information disclosed in any manner or at any time by Customer to Motorola will be deemed secret or confidential. Motorola will have no obligation to provide Customer with access to its confidential and proprietary information, including cost and pricing data.

13.3. This Agreement does not grant directly or by implication, estoppel, or otherwise, any ownership right or license under any Motorola patent, copyright, trade secret, or other intellectual property, including any intellectual property created as a result of or related to the Equipment sold or Services performed under this Agreement.

Section 14. FCC LICENSES AND OTHER AUTHORIZATIONS

Customer is solely responsible for obtaining licenses or other authorizations required by the Federal Communications Commission or any other federal, state, or local government agency and for complying with all rules and regulations required by governmental agencies. Neither Motorola nor any of its employees is an agent or representative of Customer in any governmental matters.

Section 15. COVENANT NOT TO EMPLOY

During the term of this Agreement and continuing for a period of two (2) years thereafter, Customer will not hire, engage on contract, solicit the employment of, or recommend employment to any third party of any employee of Motorola or its subcontractors without the prior written authorization of Motorola. This provision applies only to those employees of Motorola or its subcontractors who are responsible for rendering services under this Agreement. If this provision is found to be overly broad under applicable law, it will be modified as necessary to conform to applicable law.

Section 16. MATERIALS, TOOLS AND EQUIPMENT

All tools, equipment, dies, gauges, models, drawings or other materials paid for or furnished by Motorola for the purpose of this Agreement will be and remain the sole property of Motorola. Customer will safeguard all such property while it is in Customers custody or control, be liable for any loss or damage to this property, and return it to Motorola upon request. This property will be held by Customer for Motorola's use without charge and may be removed from Customers premises by Motorola at any time without restriction.

Section 17. GENERAL TERMS

17.1. If any court renders any portion of this Agreement unenforceable, the remaining terms will continue in full force and effect in which the Services are performed.

17.3. Failure to exercise any right will not operate as a waiver of that right, power, or privilege.

17.4. Neither party is liable for delays or lack of performance resulting from any causes that are beyond that party's reasonable control, such as strikes, material shortages, or acts of God.

17.5. Motorola may subcontract any of the work, but subcontracting will not relieve Motorola of its duties under this Agreement.

17.6. Except as provided herein, neither Party may assign this Agreement or any of its rights or obligations hereunder without the prior written consent of the other Party, which consent will not be unreasonably withheld. Any attempted assignment, delegation, or transfer without the necessary consent will be void. Notwithstanding the foregoing, Motorola may assign this Agreement to any of its affiliates or its right to receive payment without the prior consent of Customer. In addition, in the event Motorola separates one or more of its businesses (each a "Separated Business"), whether by way of a sale, establishment of a joint venture, spin-off or otherwise (each a "Separation Event"), Motorola may, without the prior written consent of the other Party and at no additional cost to Motorola, assign this Agreement such that it will continue to benefit the Separated Business and its affiliates (and Motorola and its affiliates, to the extent applicable) following the Separation Event.

17.7. THIS AGREEMENT WILL RENEW, FOR AN ADDITIONAL ONE (1) YEAR TERM, ON EVERY ANNIVERSARY OF THE START DATE UNLESS EITHER THE COVER PAGE SPECIFICALLY STATES A TERMINATION DATE OR ONE PARTY NOTIFIES THE OTHER IN WRITING OF ITS INTENTION TO DISCONTINUE THE AGREEMENT NOT LESS THAN THIRTY (30) DAYS OF THAT ANNIVERSARY DATE. At the anniversary date, Motorola may adjust the price of the Services to reflect its current rates.

17.8. If Motorola provides Services after the termination or expiration of this Agreement, the terms and conditions in effect at the time of the termination or expiration will apply to those Services and Customer agrees to pay for those services on a time and materials basis at Motorola's then effective hourly rates.

17.9 This Agreement may be executed in one or more counterparts, all of which shall be considered part of the Agreement. The parties may execute this Agreement in writing, or by electronic signature, and any such electronic signature shall have the same legal effect as a handwritten signature for the purposes of validity, enforceability and admissibility. In addition, an electronic signature, a true and correct facsimile copy or computer image of this Agreement shall be treated as and shall have the same effect as an original signed copy of this document.

18. Motorola shall comply with Florida's Public Records Law. Specifically, Motorola shall:

1. Keep and maintain public records required by the City to perform the service.
2. Upon request from the City's custodian of public records, provide the City with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.
3. Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if Motorola does not transfer the records to the City.
4. Upon completion of the contract, transfer, at no cost, to the City all public records in possession of Motorola or keep and maintain public records required by the City to perform the service. If Motorola transfers all public records to the City upon completion of the contract, Motorola shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure

requirements. If Motorola keeps and maintains public records upon completion of the contract, the Motorola shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the City, upon request from the City's custodian of public records, in a format that is compatible with the information technology systems of the City.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS:

(CITY CLERK) 100 E BOYNTON BEACH BLVD.
BOYNTON BEACH, FLORIDA, 33435.
561-742-6061.
PYLEJ@BBFL.US

Statement of Work

Network Monitoring, OnSite Infrastructure Response and Dispatch Service

Motorola will provide Network Monitoring, Dispatch Service and OnSite Infrastructure Response services to the Customer. These services are applicable only for the following system types: ASTRO®, ASTRO® 25, ARC 4000, SmartZone®/OmniLink® v2.0.3 and higher, SmartNet®, Private Data (with a wireless network gateway) v2.0.3 and higher, and Harmony® Wireless Communications System. The terms of this Statement of Work (SOW) are an integral part of the Motorola Service Terms and Conditions or other applicable Agreement(s) with the Customer to which this SOW is appended and made a part thereof by this reference.

1.0 Description of Services

Network Monitoring is a service designed to electronically monitor Elements of a Communication System for Events, as set forth in the Monitored Elements Table. When the Motorola System Support Center (SSC) detects an Event, trained technologists acknowledge and remotely diagnose the Event and initiate an appropriate response per the customer profile. Appropriate responses could include, but are not limited to, continuing to monitor the Event for further development transferring the Event to Technical Support, or opening a Case for dispatch of a Servicer. If dispatched, the Servicer will respond at the Customer location based on pre-defined Severity Levels set forth in the Severity Definitions Table and Response times set forth in the On-Site Response Time Table in order to Restore the System.

Motorola will provide Case management as set forth herein. The SSC maintains contact with the on-site Servicer until System Restoral occurs and Case is closed. The SSC will continuously track and manage Case activity from open to close through an automated Case tracking process.

2.0 Motorola Responsibilities:

- 2.1 Provide dedicated Connectivity through a private network connection necessary for monitoring ASTRO and ASTRO25, SmartZone/ OmniLink, Private Data, and Harmony Wireless Communications network types.The Connectivity Matrix set forth in Appendix 1, further describes the Connectivity options.
- 2.2 If determined necessary by Motorola, provide Motorola owned equipment for monitoring ASTRO and ASTRO 25 System elements. If Motorola installs or replaces Motorola owned equipment, the type equipment and location installed is listed in the Motorola Owned & Supplied Equipment Table.
- 2.3 If determined necessary by Motorola, provide Motorola owned equipment for monitoring SmartNet System elements. If Motorola installs or replaces Motorola owned equipment, the type of equipment and location installed is listed in the Motorola Owned & Supplied Equipment Table.
- 2.4 Verify Connectivity and Event monitoring prior to System Acceptance or Start Date.
- 2.5 Continuously receive data from Customer monitored System and Customer initiated service requests.
- 2.6 Remotely access the Customer's System to perform remote diagnostics as permitted by Customer pursuant to section 3.1
- 2.7 Create a Case as necessary when service requests are received. Gather information to perform the following:
  - 2.7.1 Characterize the issue
  - 2.7.2 Determine a plan of action
  - 2.7.3 Assign and track the Case to resolution.
- 2.8 Dispatch a Servicer, as required, by Motorola standard procedures and provide necessary Case information collected in section 2.7
- 2.9 Ensure the required personnel have access to Customer information as needed.
- 2.10 Disable and enable System devices, as necessary, for Servicers.
- 2.11 Servicer will perform the following on-site:
  - 2.11.1 Run diagnostics on the Infrastructure or FRU.
  - 2.11.2 Replace defective Infrastructure or FRU, as applicable. Customer, Servicer or Motorola may provide Infrastructure or FRU.
  - 2.11.3 Provide materials, tools, documentation, physical planning manuals, diagnostic/test equipment and any other requirements necessary to perform the Maintenance service.
  - 2.11.4 If a third party Vendor is needed to restore the System, the Servicer may accompany that Vendor onto the Customer's premises.

2.12 Verify with Customer that Restoration is complete or System is functional, if required by Customer's repair Verification preference described in the Customer Support Plan required by section 3.5. If Verification by Customer cannot be completed within 20 minutes of Restoration, the Case will be closed and the Servicer will be released.

2.13 Escalate the Case to the appropriate party upon expiration of a Response time.

2.14 Close the Case upon receiving notification from Customer or Servicer, indicating the Case is resolved.

2.15 Notify Customer of Case Status, as described in the Customer Support Plan required be section 3.5 at the following Case levels

- 2.15.1 Open and closed; or
- 2.15.2 Open, assigned to the Servicer, arrival of the Servicer on site, deferred or delayed, closed.

2.16 Provide the following reports, as applicable:

- 2.16.1 Case activity reports to Customer.
- 2.16.2 Network Monitoring Service reports for Customer System(s).
- 2.16.3 Network Activity/Availability Reports for ASTRO25, SmartZone/ OmniLink, and Private Data Systems only.

2.17 Respond in accordance to pre-defined Response times upon receipt from Customer of Customer managed passwords required for proper access to the Customer's System.

2.18 Apply additional support charges above and beyond the contracted service agreements that may apply if it is determined that System faults were caused by the Customer making changes to critical System parameters.

3.0 Customer Responsibilities:

3.1 Allow Motorola Continuous remote access to obtain System availability and performance data.

3.2 Allow Motorola to access System if firewall has been installed; provide permanent/dedicated access for SNMP traps (outbound) and ZDS polling (inbound). Also provide continuous utility service to any Motorola equipment installed or utilized at Customer's premises to support delivery of the Service.

3.3 Order and maintain dedicated dial-up phone lines for telephone service for SMARTNET System types. The Connectivity Matrix set forth in Appendix 1, further describes the Connectivity options.

3.4 Unless otherwise specified, Motorola recommends a private network connection for all other Systems. The Connectivity Matrix set forth in Appendix 1, further describes the Connectivity options.

3.5 Provide Motorola with pre-defined Customer information and preferences prior to Start Date necessary to complete Customer Support Plan.

- 3.5.1 Case notification preferences and procedure
- 3.5.2 Repair Verification Preference and procedure
- 3.5.3 Database and escalation procedure forms.
- 3.5.4 Submit changes in any information supplied in the Customer Support Plan to the Customer Support Manager.

3.6 Provide the following information when initiating a service request:

- 3.6.1 Assigned System ID number
- 3.6.2 Problem description and site location
- 3.6.2 Other pertinent information requested by Motorola to open a Case.

3.7 Notify the System Support Center when Customer performs any activity that impacts the System. (Activity that impacts the System may include, but is not limited to, installing software or hardware upgrades, performing upgrades to the network, or taking down part of the system to perform maintenance.)

3.8 Allow Servicers access to Equipment (including any Connectivity or monitoring equipment) if remote service is not possible.

3.9 Allow Servicers access to remove Motorola owned monitoring equipment upon cancellation of service.

3.10 Supply Infrastructure or FRU, as applicable, in order for Motorola to Restore the System as set forth in paragraph 2.12.2

3.11 Maintain and store in an easy accessible location any and all Software needed to Restore the System.

3.12 Maintain and store in an easily accessible location proper System backups.

3.13 Verify with the SSC that Restoration is complete or System is functional, if required by the Repair Verification Preference provided by Customer in accordance with section 3.5.

3.14 Pay additional support charges above and beyond the contracted service agreements that may apply if it is determined that System faults were caused by the Customer making changes to critical System parameters

3.15 Cooperate with Motorola and perform all acts that are reasonable or necessary to enable Motorola to provide the services described in this SOW.

Severity Definitions Table

Severity Level	Problem Types
Severity 1	**1. Response is provided Continuously** 2. Major System failure 3. 33% of System down 4. 33% of Site channels down 5. Site Environment alarms (smoke, access, temp, AC power) as determined by the SSC. 6. This level is meant to represent a major issue that results in an unusable system, sub-system, Product, or critical features from the Customer's perspective. No Work-around or immediate solution is available.
Severity 2	**1. Response during Standard Business Day** 2. Significant System Impairment not to exceed 33% of system down 3. System problems presently being monitored 4. This level is meant to represent a moderate issue that limits a Customer's normal use of the system, sub-system, product, or major non-critical features from a Customer's perspective
Severity 3	**1. Response during Standard Business Day** 2. Intermittent system issues 3. Information questions 4. Upgrades/preventative maintenance 5. This level is meant to represent a minor issue that does not preclude use of the system, sub-system, product, or critical features from a Customer's perspective. It may also represent a cosmetic issue, including documentation errors, general usage questions, recommendations for product enhancements or modifications, and scheduled events such as preventative maintenance or product/system upgrades.

On-Site Response Time Table (Customer's Response Time Classification is designated in the Service Agreement).

Severity Level	Premier Response Time	Restoral	Off Deferral
Severity 1	Within 2 hours from receipt of Notification Continuously	8 Hours	Time provided by Servicer *
Severity 2	Within 4 hours from receipt of Notification Standard Business Day	8 Hours	Time provided by Servicer *
Severity 3	Within 24 hours from receipt of Notification Standard Business Day	48 Hours	Time provided by Servicer *

- Please note these are Standard Commitment times. The commitment times should be based on the Customers Support Plan.
- Provide update **before** the specific contractual commitments come due.

* Note: Provide update to System Support Center **before** Deferral time comes due.

Appendix 1

Connectivity Matrix

System Type	Connectivity	Responsibility
Astro 25	T1	Motorola
SmartZone/OmniLink v3.5 and below	256K	Motorola
SmartZone/OmniLink v4 and above	512K	Motorola
Private Data	256K	Motorola
ARC 4000	T1 or VPN	Motorola
MESH	T1 or VPN	Motorola
Harmony	T1	Motorola

MotoBridge	T1 or VPN	Motorola
SmartNet	Dial-up	Customer

Private Network Connection IP VPN (All Customers)	**Public Internet Connection IP VPN (Option Available only to Customers outside of the US)**
Standard solution for real time Connectivity	Non Standard solution for Connectivity
Dedicated bandwidth configuration provided to monitor Customers	No dedicated bandwidth provided to monitor Customers
Protected from unauthorized intrusion	Low risk of unauthorized intrusion
Encryption available	Encryption is required
Connectivity available through Motorola	Customer provides Connectivity to the internet via an internet service provider selected by Customer.

Motorola Owned & Supplied Equipment Table

Equipment Type	**Location Installed**
Firewall/Router	Master Site
System Support Server	Master Site for each Zone

Monitored Elements Table (Listed by technology)

System Type	**Equipment**

Legal Approval
September 2010

Statement of Work

Infrastructure Repair with Advanced Replacement

1.0 Description of Services

Infrastructure Repair with Advanced Replacement is a repair service for Motorola and select third party Infrastructure as set forth in the applicable attached Exhibit(s), all of which are hereby incorporated into this Statement of Work (SOW) by this reference. Infrastructure may be repaired down to the Component level, as applicable, at the Motorola Infrastructure Depot Operations (IDO). At Motorola's discretion, select third party Infrastructure may be sent to the original equipment manufacturer or third party vendor for repair. If Infrastructure is no longer supported by the original equipment manufacturer or third party vendor, Motorola may replace Infrastructure with similar Infrastructure, when possible.

When available, Motorola will provide Customer with an Advanced Replacement unit(s) or FRU(s) in exchange for Customer's malfunctioning FRU(s). Non-standard configurations, Customer-modified Infrastructure and certain third party Infrastructure are excluded from Advanced Replacement service. Malfunctioning FRU (s) will be evaluated and repaired by IDO and returned to IDO FRU inventory upon completion of repair.

The terms and conditions of this SOW are an integral part of Motorola's Service Terms and Conditions or other applicable agreement to which it is attached and made a part thereof by this reference.

2.0 Motorola has the following responsibilities:

2.1. Use commercially reasonable efforts to maintain an inventory of FRU.

2.2. Provide new or reconditioned units as FRU to Customer or Servicer, upon request and subject to availability. The FRU will be of similar kit and version, and will contain like boards and chips, as the Customer's malfunctioning Infrastructure.

2.3. Program FRU to original operating parameters based on templates provided by Customer as required in Section 3.5. If Customer template is not provided or is not reasonably usable, a standard default template will be used.

2.4. Properly package and ship Advanced Replacement FRU from IDO or select third party FRU inventory to Customer specified address.

2.4.1. During normal operating hours of Monday through Friday 7:00am to 7:00pm CST, excluding holidays, FRU will be sent next day air via Federal Express Priority Overnight or UPS Red, unless otherwise requested. Select third party FRU may ship second day air via Federal Express Priority Overnight or UPS red as noted in the attached exhibit(s). Motorola will pay for such shipping, unless Customer requests shipments outside of the above mentioned standard business hours and/or carrier programs, such as NFO (next flight out). In such cases, Customer will be subject to shipping and handling charges.

2.4.2. When sending the Advanced Replacement FRU to Customer, provide a return air bill in order for Customer to return the Customer's malfunctioning FRU. The Customer's malfunctioning FRU will become property of IDO or select third party and the Customer will own the Advanced Replacement FRU.

2.4.3. When sending a Loaner FRU to Customer, IDO will not provide a return air bill for the malfunctioning Infrastructure. The Customer is responsible to arrange and pay for shipping the malfunctioning Infrastructure to IDO. IDO will repair and return the Customer's Infrastructure and will provide a return air bill for the customer to return IDO's Loaner FRU.

2.5. Provide repair return authorization number upon Customer request for Infrastructure that is not classified as an Advanced Replacement or Loaner FRU.

2.6. Receive malfunctioning Infrastructure from Customer and document its arrival, repair and return.

2.7. Perform the following service on Motorola Infrastructure:

2.7.1. Perform an operational check on the Infrastructure to determine the nature of the problem.

2.7.2. Replace malfunctioning FRU or Components.

2.7.3. Verify that Motorola Infrastructure is returned to Motorola manufactured specifications, as applicable

2.7.4. Perform a Box Unit Test on all serviced Infrastructure.

2.7.5. Perform a System Test on select Infrastructure.

2.8. Provide the following service on select third party Infrastructure:
  2.8.1. Perform pre-diagnostic and repair services to confirm Infrastructure malfunction and eliminate sending Infrastructure with no trouble found (NTF) to third party vendor for repair, when applicable.
  2.8.2. Ship malfunctioning Infrastructure to the original equipment manufacturer or third party vendor for repair service, when applicable.
  2.8.3. Track Infrastructure sent to the original equipment manufacturer or third party vendor for service.
  2.8.4. Perform a post-test after repair by Motorola, original equipment manufacturer, or third party vendor to confirm malfunctioning Infrastructure has been repaired and functions properly in a Motorola System configuration, when applicable.

2.9. Re-program repaired Infrastructure to original operating parameters based on templates provided by Customer as required by Section 3.5. If Customer template is not provided or is not reasonably usable, a standard default template will be used. If IDO determines that the malfunctioning Infrastructure is due to a Software defect, IDO reserves the right to reload Infrastructure with a similar Software version. Enhancement Release(s), if needed, are subject to additional charges to be paid by Customer unless the Customer has a Motorola Software Subscription agreement.

2.10. Properly package repaired Infrastructure unless Customer's malfunctioning FRU was exchanged with an IDO FRU. Motorola will return Customer's FRU(s) to IDO's FRU inventory, upon completion of repair.

2.11. Ship repaired Infrastructure to the Customer specified address during normal operating hours set forth in 2.4.1. FRU will be sent two-day air unless otherwise requested. Motorola will pay for such shipping, unless Customer requests shipments outside of the above mentioned standard business hours and/or carrier programs, such as NFO (next flight out). In such cases, Customer will be subject to shipping and handling charges.

3.0 Customer has the following responsibilities:

3.1. Contact or instruct Servicer to contact the Motorola System Support Center (SSC) and request an Advanced Replacement, or Loaner FRU and a return authorization number (necessary for all non-Advanced Replacement repairs) prior to shipping malfunctioning Infrastructure or third party Infrastructure named in the applicable attached Exhibit.
  3.1.1. Provide model description, model number, serial number, type of System and Firmware version, symptom of problem and address of site location for FRU or Infrastructure.
  3.1.2. Indicate if Infrastructure or third party Infrastructure being sent in for service was subjected to physical damage or lightning damage.
  3.1.3. Follow Motorola instructions regarding inclusion or removal of Firmware and Software applications from Infrastructure being sent in for service.
  3.1.4. Provide Customer purchase order number to secure payment for any costs described herein.

3.2 Pay for shipping of Advanced Replacement or Loaner FRU from IDO if Customer requested shipping outside of standard business hours or carrier programs set forth in section 2.4.1.

3.3 Within five (5) days of receipt of the Advanced Replacement FRU from IDO's FRU inventory, properly package Customer's malfunctioning Infrastructure and ship the malfunctioning Infrastructure to IDO for evaluation and repair as set forth in 2.7. Customer must send the return air bill, referenced in 2.4.2 above back to IDO in order to ensure proper tracking of the returned Infrastructure. Customer will be subject to a replacement fee for malfunctioning Infrastructure not properly returned. For Infrastructure and/or third party Infrastructure repairs that are not exchanged in advance, properly package Infrastructure and ship the malfunctioning FRU, at Customer's expense and risk of loss to Motorola. Customer is responsible for properly packaging the Customer malfunctioning Infrastructure FRU to ensure that the shipped Infrastructure arrives un-damaged and in repairable condition. Clearly print the return authorization number on the outside of the packaging.

3.4 If received, Customer must properly package and ship Loaner FRU back to IDO within five (5) days of receipt of Customer's repaired FRU.

3.5 Maintain templates of Software/applications and Firmware for reloading of Infrastructure as set forth in paragraph 2.3 and 2.9.

3.6 For Digital In-Car Video Infrastructure, remove video from equipment prior to sending Infrastructure in for repair. Video retrieval is a separate service and is not included as part of this SOW. Additional services and fee applies.

3.7 Cooperate with Motorola and perform all acts that are reasonable or necessary to enable Motorola to provide the Infrastructure Repair with Advanced Replacement services to Customer.

4.0 In addition to any exclusions named in Section 5 of the Service Terms and Conditions or in any other underlying Agreement to which this SOW is attached, the following items are excluded from Infrastructure Repair with Advanced Replacement:

1. All Infrastructure over seven (7) years from product cancellation date.
2. All Broadband/WiNS Infrastructure three (3) years from product cancellation date.
3. Physically damaged Infrastructure.
4. Third party Equipment not shipped by Motorola.
5. Consumable items including, but not limited to, batteries, connectors, cables, tone/ink cartridges.
6. Video retrieval from Digital In-Car Video equipment.
7. Test equipment.
8. Racks, furniture and cabinets.
9. Firmware and/or Software upgrades.

Console Only Infrastructure Exhibit	Inclusions, Exclusions, Exceptions and Notes
Card Cages	Included
Central Electronics Bank(s) (CEB)	Includes Logging Recorder Interface and Network Hub, Base Interface Module (BIM), Console Operator Interface Module (COIM), Operator Interface Module (OMI). Excludes all other technologies see SOW specifically for NICE logging recorders
Central Electronic Shelf (CES)	Included
Computer(s)	Includes computers that directly interface with CEB. Includes keyboards, mice and trackballs. Excludes laptop computers and all 286, 386, 486 computers. Defective or phosphor-burned cathode ray tubes CRT(s) and burned-in flat panel display image retention.
Console(s)	Includes consoles (CommandSTAR, CommandSTAR lite, Centracom Gold Elite MCC7500, MCC7500 w/ VPM, MCC5500, MIP5000, MC1000, MC2000, MC2500, MC3000) as part of complete communication System – Including headset jacks, dual footswitches, and gooseneck microphones and Console Interface Electronics. Excludes cables
Console Audio Box (CAB)	Included
Dictaphones, Logging Recorders and Recording Equipment	Excludes all technologies see SOW specifically for NICE logging recorders
Junction Box	Included
Microwave Equipment.	Excluded from service agreement but may be repaired on an above contract, time and material basis. All Equipment must be shipped to IDO. Excludes any on-site services.
Monitor(s)	Includes all Motorola certified monitors connected to computers that directly interface with or control the communications System. Excludes defective or phosphor-burned cathode ray tubes CRT(s) and burned-in flat panel displays image retention as well as monitors not shipped by Motorola and/or cannot be confirmed by a Motorola factory order number.
Site Frequency Standard(s)	Includes Netclocks systems Excludes MFS -Rubidium Standard Network Time and Frequency devices
UPS Systems.	Excluded from service agreements but may be repaired on an above contract, time and material basis. All UPS Systems must be shipped to IDO for repair. Excludes batteries and any on-site services.

Statement of Work

Technical Support Service

1.0 Description of Services

The Technical Support service provides centralized remote telephone support for technical issues that require a high level of communications systems expertise or troubleshooting on Equipment. The Motorola System Support Center's (SSC) Technical Support Operation is staffed with technologists who specialize in the diagnosis and resolution of system performance issues. Technical Support Service (i) does not include software upgrades that may be required for issue resolution; and (ii) does not include Customer training (iii) is only available for those system types supported and approved by Technical Support Operations, (iv) limited to Infrastructure currently supported by Motorola.

Technical Support is applicable to the following system types: ASTRO®, ASTRO® 25 , ARC 4000, SmartZone® v2.0.3 and higher, SmartZone®/OmniLink®, E911, Private Data v2.0.3 and higher, SmartNet®, Conventional Two-Way, and Wireless Broadband.

The terms and conditions of this Statement of Work (SOW) are an integral part of Motorola's Service Terms and Conditions or other applicable Agreement to which it is attached and made a part thereof by this reference.

2.0 Motorola has the following responsibilities:

2.1. Respond to requests for Technical Support for the Restoration of failed Systems and diagnosis of operation problems in accordance with the response times set forth in the Remote Technical Support Response Times Table and the Severity Level defined in the Severity Definitions Table.
  2.1.1 If Infrastructure is no longer supported by Motorola, Technical Support will diagnosis the System but may not be able to resolve the issue without the Customer replacing the Infrastructure.
2.2. Advise caller of procedure for determining any additional requirements for issue characterization, Restoration, including providing a known fix for issue resolution when available.
2.3. Attempt remote access to System for remote diagnostics, when possible.
2.4. Maintain communication with the Servicer or Customer in the field until close of the Case, as needed.
2.5. Coordinate technical resolutions with agreed upon third party vendor(s), as needed.
2.6. Escalate and manage support issues, including Systemic issues, to Motorola engineering and product groups, as applicable.
2.7. Escalate the Case to the appropriate party upon expiration of a Response time.
2.8. Provide Configuration Change Support and Work Flow changes to Systems that have dial in or remote access capability.
2.9. Determine, in its sole discretion, when a Case requires more than the Technical Support services described in this SOW and notify Customer of an alternative course of action.

3.0 Customer has the following Responsibilities:

3.1. Provide Motorola with pre-defined information prior to Start Date necessary to complete Customer Support Plan.
  3.1.1. Submit changes in any information supplied in the Customer Support Plan to the Customer Support Manager.
3.2. Contact the SSC in order to access the Technical Support Operation, provide name of caller, name of Customer, System ID number, Service Agreement number, site(s) in questions, and brief description of the problem.
3.3. Supply on-site presence when requested by System Support Center.
3.4. Validate issue resolution prior to close of the Case.
3.5. Allow Motorola remote access to the System by equipping the System with the necessary Connectivity.
3.6. Remove video from Digital In-Car Video equipment prior to contacting Motorola. If Technical Support assists the Customer in removing video, the Customer acknowledges, understands and agrees that Motorola does not guarantee or warrant that it will be able to extract any captured video or that any captured video will not be damaged, lost or corrupted.

3.7 Acknowledge that Cases will be handled in accordance with the times and priorities as defined in Remote Technical Support Response Times Table and the Severity Level defined in the Severity Definitions Table.

3.8 Cooperate with Motorola and perform all acts that are reasonable or necessary to enable Motorola to provide the Technical Support service to Customer.

Severity Definitions Table

Severity Level	Problem Types
Severity 1	**1. Response is provided Continuously** 2. Major System failure 3. 33% of System down 4. 33% of Site channels down 5. Site Environment alarms (smoke, access, temp, AC power) as determined by the SSC. 6. This level is meant to represent a major issue that results in an unusable system, sub-system, Product, or critical features from the Customer's perspective. No Work-around or immediate solution is available.
Severity 2	**1. Response during Standard Business Day** 2. Significant System Impairment not to exceed 33% of system down 3. System problems presently being monitored 4. This level is meant to represent a moderate issue that limits a Customer's normal use of the system, sub-system, product, or major non-critical features from a Customer's perspective
Severity 3	**1. Response during Standard Business Day** 2. Intermittent system issues 3. Information questions 4. Upgrades/preventative maintenance 5. This level is meant to represent a minor issue that does not preclude use of the system, sub-system, product, or critical features from a Customer's perspective. It may also represent a cosmetic issue, including documentation errors, general usage questions, recommendations for product enhancements or modifications, and scheduled events such as preventative maintenance or product/system upgrades.

Remote Technical Support Response Times Table

SEVERITY	RESPONSE
Severity 1	Within 1 Hour from receipt of Notification, Continuously
Severity 2	Within 4 Hours from receipt of Notification, Standard Business Day
Severity 3	Within next Business Day, Standard Business Day

Approved by Legal 11-20-09

Statement of Work

Local Radio Combo Package

1.0 Description

Local Radio Combo Package provides operational check and board level repair services for mobile, portable, two-way and mobile data. An operational check is an analysis of the Equipment to identify external or internal defects. Local Radio Combo Package also includes service on standard palm microphones and single mobile controls heads, provided that they are required for normal operation of the two-way mobile and are included at the point of manufacture. Service is only included on Equipment specifically named in the applicable Agreement to which this Statement of Work is attached.

Local Radio Combo Package excludes repairs to: optional accessories; iDEN accessories; iDEN mobile microphones; non-standard mobile microphones, mobile external speakers; optional or additional control heads, single and multiple unit portable chargers; batteries, mobile antennas; mobile power & antenna cables and power supplies.

The following services are excluded from Local Radio Combo service unless they are purchased for an additional fee. The services are Pick-up & delivery, Subscriber Preventative Maintenance, Portable Remote Speaker Microphones, Portable Antenna Replacements and Mobile Remote Control Heads.
The terms and conditions of this SOW are an integral part of Motorola's Service Terms and Conditions or other applicable agreement to which it is attached and made a part thereof by this reference.

2.0 Motorola has the following responsibilities:

- 2.1 Service to be performed at the Servicer facility during Standard Business Days.
- 2.2 Perform an operational check on the Equipment to determine the nature of the problem.
- 2.3 Remove/reinstall mobile or data Equipment from/to Customer's vehicle as needed for additional servicing.
- 2.4 Test and Restore the Equipment to Motorola factory specifications.
- 2.5 Remove any dust, and/or foreign substances from the Equipment.
- 2.6 Reprogram Equipment necessary to return Equipment to original operating parameters based on the template in the Equipment, if the template information can be retrieved from the Equipment, or from a backup diskette provided by Customer containing the template information. If the Customer template is not provided or not reasonably usable, a generic template utilizing the latest Radio Service Software (RSS) version for that Equipment will be used. The Equipment will require additional programming by the Customer to Restore the original template.
- 2.7 Notify Customer upon completion of repair for pickup of Equipment.

3.0 Customer has the following Responsibilities:

- 3.1 Deliver and pick up Equipment to/from the Servicer facility.
- 3.2 Inform Servicer of description of problem for Equipment brought in for service.
- 3.3 If the Equipment will not power up, or if desired, supply Servicer with a backup diskette with the Software template or programming in order to assist in returning the Equipment to original operating parameters. If applicable, record the current flashcode for each radio.
- 3.4 If Motorola must use a generic template to restore Equipment to operating condition, Customer is responsible for any programming required to Restore Equipment to desired parameters.
- 3.5 Cooperate with Motorola and perform all acts that are reasonable or necessary to enable Motorola to provide
- 3.6 the Local Radio Combo Package service to Customer.

Statement of Work
Security Update Service (SUS)

1.0 Definitions

Terms that are capitalized but not defined in this Statement of Work shall have the definition given to such terms in the Service Terms and Conditions, the Communications System Agreement or other applicable agreement. The following terms have the following meanings:

1.1 Non-Motorola Software: Software whose copyright is owned by a party other than Motorola or its affiliated company, including but not limited to the anti-virus definitions, operating system software patches and signature files that will be pre-tested pursuant to this Statement of Work.

1.2 System: The currently shipping Motorola ASTRO® 25 System Release and up to 5 releases prior.

1.3 Supported Release: Security Update Service is available on the currently shipping Motorola ASTRO® 25 System Release and up to 5 releases prior. If a customer is on a System Release outside of the N-5 release schedule, then they cannot purchase this service.

2.0 Description of Services

With Security Update Service ("Service"), Motorola pretests the updated commercial anti-virus definitions for the Microsoft Windows based boxes on a System. This Service includes Motorola obtaining Microsoft Security Updates for Windows operating system, Solaris recommended patch bundles, Red Hat Linux security patches, anti-virus definitions* and intrusion detection sensor updates for Motorola supplied equipment from applicable original equipment manufacturer (OEM).

Motorola will evaluate and pre-test each update on Motorola's ASTRO 25 test System components for operational impact. Motorola's verification and evaluation process for anti-virus definitions will consist of applying each update to an appropriate ASTRO 25 system release that corresponds and is consistent with supported** and fielded systems.

Each assessment will consist of no less than 36 hours of examination time to evaluate the impact each anti-virus update has to the system. Upon satisfactory completion of the assessment pertaining to anti-virus signatures, these updates will be provided on a weekly basis either automatically or through connecting to Motorola's secured extranet connection. When anti-virus definitions classified as Category 4 (Severe, difficult to contain) and Category 5 (Very Severe, very difficult to contain) by the commercial

supplier are released, Motorola will determine if a high-priority release is necessary. Operating system updates/patches will be made available to our customers electronically upon successful testing in our lab environments on a monthly basis for Microsoft patches and on a quarterly basis for all others.

NOTICE: If a customer wants antivirus and IDS updates automatically deployed onto their network, then they must purchase the Security Monitoring service. Otherwise, customers may download the updates from the secure extranet site and manually deploy them onto their network. Motorola will perform testing only on standard configurations certified by Motorola System Integration Testing (SIT) and Motorola supplied equipment/software prior to making an update available to Customers.

* - Not all systems are provided antivirus for Microsoft and UNIX platforms. To receive full antivirus support under this service offering, the customer must have a standard ASTRO 25 system that is supported and also has implemented antivirus for UNIX.

** - Supported is defined as the current system release and the last five prior. Support beyond this model requires approval from the Customer Service Manager and the Security Services Product Manager. For extended coverage, please communicate a formal request to your account manager.

The customer will be responsible for deploying Microsoft, Oracle, Sun Microsystems, UNIX, and Linux security updates from a Motorola provided secured extranet Web site. Antivirus and IDS updates will be capable of being pushed automatically to the customer ASTRO25 network only if the Security Monitoring service is purchased by the customer. If there is a recommended configuration change that is successfully tested on the ASTRO 25 test System, Motorola will provide detailed instructions for performing the configuration change.

Inclusions: Security Update Service is available on the currently shipping Motorola ASTRO 25 System Release and up to 5 releases prior. If a customer is on a System Release outside of the N-5 release schedule, then they cannot purchase this service.

Exclusions: Systems that have non-standard configurations that have not been certified by Motorola SIT are specifically excluded from this Service unless otherwise agreed in writing by Motorola. Service does not include pre-tested intrusion detection system (IDS) updates for IDS solutions not purchased through Motorola. NICE Recorder, certain consoles, MARVLIS, Symbol Equipment, AirDefense Equipment, AVL, and Radio Site Security products are also excluded. The scope of service coverage is defined by Motorola Services and is subject to change based on OEM support lifecycles. The terms and conditions of this Statement of Work are an integral part of Motorola's Service Terms and Conditions or other applicable Agreement to which it is attached and made a part thereof by this reference.

3.0 Motorola has the following responsibilities:

3.1 Obtain anti-virus definitions for the Microsoft Windows platform, intrusion detection sensor signatures for Motorola supplied IDS, Microsoft Security Updates for Windows Operating system, Solaris operating system recommended patch bundles, and Red Hat Linux security patches from Motorola selected commercial suppliers.

3.2 Evaluate anti-virus definitions classified as Category 4 and 5 by Motorola selected commercial supplier to determine if a high-priority release is required. Motorola in its discretion will determine the urgency of the update based on the impact to the System.

3.3 Identify and document latest System vulnerabilities and compliance issues discovered during quarterly vulnerability scan performed in Section 3.4.

3.4 Investigate new vulnerabilities and compliance issues that are identified. Recommended response may include, but is not limited to, ASTRO 25 Systems, deploy security software updates; deploy operating system security updates or patches; implement configuration changes; upgrade to current ASTRO 25 System Release (actual upgrade expense not included in this service offering); or recommending a compensating control.

3.5 Pre-test recommended remediation when applicable and make documentation and/or software updates available to Customer electronically.

3.6 Provide documented response with recommended remediation when applicable for all new vulnerabilities quarterly or at Motorola's discretion to Customer electronically.

3.7 Test anti-virus definitions, intrusion detection sensor signatures, and operating system security updates/patches by deploying them on a dedicated ASTRO 25 test System with the standard supported configurations, which include Motorola's then current approved cohabitated applications.

3.8 Confirm that tested anti-virus definitions, intrusion detection sensor signatures, and operating system security updates/patches do not degrade or compromise System functionality on dedicated test System within the standard supported configurations.

3.9 Address issues identified during testing to support functionality under the procedures specified in 3.8 above by working with Motorola selected commercial supplier or Motorola product development engineering team.

3.10 Release pre-tested anti-virus definitions and intrusion detection sensor signatures for Motorola supplied IDS electronically on a weekly basis upon successful completion of the weekly test cycle to be completed one week after release by commercial supplier unless an issue is detected or within 36 hours from Motorola selected commercial supplier's Category 4 & 5 certified virus definitions being available or at Motorola's discretion if determined by Motorola to be a high-priority release. Release may include

the anti-virus definition file, intrusion detection sensor signatures, updated configuration files, instructions and other information deemed pertinent by Motorola.

3.11 Release Microsoft, Solaris and Red Hat Linux operating system security patches/updates when they are certified and available with instructions for obtaining patch/update for Customer deployment on the Customer system. Microsoft operating system security updates will be released monthly as available from Motorola selected commercial supplier upon successful completion of monthly test cycle. Solaris and Red Hat Linux operating system security patches will be released quarterly upon successful completion of quarterly test cycle or at Motorola's discretion.

3.12 Notify Customer when the latest release is available with instructions on where to obtain latest release.

3.13 Provide technical assistance if there is an issue with the installation of an update.

3.14 Maintain annual Customer subscriptions for anti-virus definitions and intrusion detection sensor signatures, with Motorola selected commercial supplier.

4.0 Customer has the following responsibilities:

4.1 Provide means for accessing pre-tested files electronically.

4.2 Deploy pre-tested files on Customer System as instructed in the "Read Me" text provided.

4.3 Implement recommended remediation(s) on Customer System as determined necessary by Customer.

4.4 Upgrade System to a Supported System Release as necessary to continue Service.

4.5 Identify one point of contact for issues specific to Security Update Service.

4.6 Cooperate with Motorola and perform all acts that are reasonable and/or necessary to enable Motorola to electronically provide Security Update Service – Platinum to Customer.

4.7 Comply with the terms of the applicable license agreement between Customer and the Non-Motorola Software copyright owner.

4.8 Adhere closely to the System Support Center (SSC) troubleshooting guidelines provided upon system acquisition. A failure to follow SSC guidelines may cause Customer and Motorola unnecessary or overly burdensome remediation efforts that may result in a service fee to Customer.

5.0 WARRANTIES AND DISCLAIMER:

Motorola warrants that its services will be free of defects in materials and workmanship for a period of ninety (90) days following completion of the service. Your sole remedies are to require Motorola to re-perform the affected service or at Motorola's option to refund, on a pro-rata basis, the service fees paid for the affected service.

During the applicable Warranty Period, Motorola warrants that the tested anti-virus definitions, intrusion detection sensor signatures, and operating system security updates/patches do not degrade or compromise System functionality, and that after incorporation of the recommended remediation action the System Software, when used properly and in accordance with the Documentation, will be free from a reproducible defect that eliminates the functionality or successful operation of a feature critical to the primary functionality or successful operation of the Software. Product and Software documentation that specifies technical and performance features and capabilities, and the user, operation and training manuals for the Software (including all physical or electronic media upon which this information is provided) are collectively referred to as "Documentation." Whether a defect occurs will be determined solely with reference to the Documentation. Motorola does not warrant that Customer's use of the Software or Products will be uninterrupted or error-free or that the Software or the Products will meet Customer's particular requirements.

MOTOROLA DISCLAIMS ALL OTHER WARRANTIES WITH RESPECT TO PRE-TESTED ANTI-VIRUS DEFINITIONS, DATABASE SECURITY UPDATES, OPERATING SYSTEM SOFTWARE PATCHES, AND INTRUSION DETECTION SENSOR SIGNATURE FILES, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. FURTHER, MOTOROLA DISCLAIMS ANY WARRANTY CONCERNING THE NON-MOTOROLA SOFTWARE AND DOES NOT GUARANTEE THAT CUSTOMER'S SYSTEM WILL BE ERROR-FREE OR IMMUNE TO VIRUSES OR WORMS AS A RESULT OF THESE SERVICES.

STATEMENT OF WORK

Security Monitoring

Overview: Security Monitoring is a service offering that provides Security Monitoring to identify malicious activity that will or might cause system interference or corruption.

Definitions

Terms that are capitalized but not defined in this Statement of Work shall have the definition given to such terms in the Service Terms and Conditions, the Communications System Agreement or other applicable agreement. The following terms have the following meanings:

Non-Motorola Software: Software whose copyright is owned by a party other than Motorola or its affiliated company, including but not limited to the anti-virus definitions, operating system software patches and signature files that will be pre-tested pursuant to this Statement of Work and the procurement of the Pre-Tested Software Subscription Service.

1.0 Description of Services

ASTRO 25 Security Monitoring includes monitoring and managing the Motorola security equipment present on the Customer's System. Monitoring security equipment requires Customer to purchase a Core Security Management Server with Customer's System. Motorola will monitor Elements of a System for Events, as set forth in the Monitored Elements Table below.

When the Motorola System Support Center (SSC) detects an Event, trained technologists that are experienced with identifying and interpreting security incidents will acknowledge the Event, run remote diagnostic routines, and initiate an appropriate Response. Appropriate responses could include, but are not limited to, continuing to monitor the Event for further development, attempting remote Restoral, or transferring the Event by opening a Case for dispatch of a Servicer. If dispatched, the Servicer will respond at the Customer location based on pre-defined Severity Levels set forth in the Severity Definitions Table and Response times set forth in the On-Site Response Time Table in order to Restore the System.

Motorola will proactively manage the security Elements present on the System as needed to mitigate the risk of vulnerability such as a virus, worm or other intrusive attack on the System. This may include periodically deploying the latest release of pre-tested intrusion detection sensor signature files on the network barrier (ONLY for IDS supplied to Customer by Motorola and if present on the System) as determined by Motorola. Motorola will also modify intrusion sensor settings and update firewall settings as determined by Motorola and will notify Customer of such modifications.

Motorola will provide Case Management as set forth herein. The SSC maintains contact with the on-site Servicer until System Restoral occurs and Case is closed. The SSC will continuously track and manage Case activity from open to close through an automated Case tracking process.

This Case management allows Motorola to provide activity and performance reports as well as ensures timely resolution of issues.

The terms and conditions of this Statement of Work (SOW) are an integral part of Motorola's Service Terms and Conditions or other applicable Agreement(s) to which it is attached and made a part thereof by this reference.

2.0 Motorola has the following responsibilities:

2.1 Provide dedicated Connectivity through a private network connection necessary for monitoring ASTRO 25 System. The Connectivity Matrix set forth below further describes the Connectivity options. **NOTICE: If Network Monitoring (a separate Service) is not acquired, an additional fee will be applied to the customer.**

2.2 Provide dedicated connectivity necessary for monitoring.

2.3 If determined necessary by Motorola, provide Motorola owned equipment for monitoring ASTRO 25 System elements. If Motorola installs or replaces Motorola owned equipment, the type of equipment and location installed is listed in the Motorola Owned & Supplied Equipment Table.

2.4 Verify Connectivity and Event monitoring prior to System Acceptance or Start Date.

2.5 Coordinate with Customer to maintain Motorola service authentication credentials.

2.6 Continuously receive service requests.

2.7 Perform Continuous monitoring of System Elements as set forth in the Monitored Elements Table.

2.8 Interpret System Events and determine appropriate Response. An appropriate Response could include the following actions: notify customer of activity, continue monitoring the Event for further development, review System log files or transfer the Event information via a Case for dispatch of a Servicer.

2.9 Respond in accordance to pre-defined Response times upon receipt from Customer of Customer managed passwords required for proper access to the Customer's System.

2.10 Remotely access the Customer's System to perform remote diagnostics as permitted by Customer pursuant to section 3.1.

2.11 Attempt remote Restoral, as appropriate. Some System functions may be disrupted as necessary to maintain System integrity until further validation of the Event occurs. This may include shutting down applications, applying security tools, resetting box, or instructing Servicer to reload applications and operating system software as necessary. **This does not include a technician being physically dispatched.**

2.12 Create a Case as necessary when service requests are received. Gather information to perform the following:

2.12.1 Characterize the issue

2.12.2 Determine a plan of action

2.12.3 Assign and track the Case to resolution.

2.13 Ensure the required personnel have access to Customer information as needed.

2.14 Disable and enable System devices, as necessary, for Servicers.

2.15 Servicer will perform the following on-site:

2.15.1 Run diagnostics on the Infrastructure or FRU.

2.15.2 Replace defective Infrastructure or FRU, as applicable to security components provided by or approved by Motorola. Customer, Servicer or Motorola may provide Infrastructure or FRU.

2.15.3 Provide materials, tools, documentation, physical planning manuals, diagnostic/test equipment and any Security requirements necessary to perform the Maintenance service.

2.15.4 If a third party Vendor is needed to restore the System, the Servicer may accompany that Vendor onto the Customer's premises.

2.16 Verify with Customer that Restoration is complete or System is functional, if required by Customer's repair Verification preference described in the Customer Support Plan required by section 3.6. If Verification by Customer cannot be completed within 20 minutes of Restoration, the Case will be closed and the Servicer will be released.

2.17 Escalate the Case to the appropriate party upon expiration of a Response time.

2.18 Close the Case upon receiving notification from Customer or Servicer, indicating the Case is resolved.

2.19 Notify Customer of Case Status, as described in the Customer Support Plan at the following Case levels:

2.19.1 Open and closed; or

2.19.2 Open, assigned to the Servicer, arrival of the Servicer on site, deferred or delayed, closed.

2.20 Obtain intrusion detection sensor (IDS) signatures for Motorola supplied IDS, from Motorola selected commercial suppliers.

2.21 Address issues identified during testing to support functionality under the procedures specified in 2.22 above by working with Motorola selected commercial supplier or Motorola product development engineering team.

2.22 Maintain annual Customer licenses for intrusion detection sensor signatures for IDS supplied to Customer by Motorola with Motorola selected commercial supplier.

2.23 Provide the following reports, as applicable:

2.23.1 Case activity reports to Customer.

2.23.2 Network Security Monitoring Service reports for Customer System(s).

2.24 Apply additional support charges above and beyond the contracted service agreements that may apply if it is determined that System faults were caused by the Customer making changes to critical System parameters.

3.0 Customer has the following responsibilities:

3.1 Allow Motorola Continuous remote access to obtain System availability, performance and configuration data.

3.2 Allow Motorola to access System if firewall has been installed; provide permanent/dedicated access for SNMP traps (outbound) and ZDS polling (inbound).

3.3 Provide continuous utility service to any Motorola equipment installed or utilized at Customer's premises to support delivery of the Service.

3.4 Maintain and manage any equipment outside of the System.

3.5 Provide Motorola with pre-defined Customer information and preferences prior to Start Date necessary to complete Customer Support Plan.

3.5.1 Provide 7/24 security contact and escalation list
3.5.2 Case notification preferences and procedures
3.5.3 Repair Verification preference and procedure
3.5.4 Database and escalation procedure forms.
3.5.5 Submit changes in any information supplied in the Customer Support Plan to the Customer Support Manager.

3.6 Provide the following information when initiating a service request:

3.6.1 Assigned System ID number

3.6.2 Problem description and site location

3.6.3 Other pertinent information for Motorola to open a Case.

3.7 Provide all Customer managed passwords required to access the Customer's System to Motorola upon request or when opening a Case to request service support or enable Response to a technical issue.

3.8 Notify the SSC when Customer performs any activity that impacts the System

. (Activity that impacts the System may include, installing software or hardware upgrades, performing upgrades to the network, or taking down part of the System to perform maintenance.)

3.9 As necessary, upgrade System to Supported System Release as specified in paragraph 2.22.

3.10 Allow Servicers access to Equipment (including any Connectivity or security monitoring equipment) if remote service is not possible.

3.11 Allow Servicers access to remove Motorola owned server upon cancellation of service as set forth in paragraph 2.2.

3.12 Supply Infrastructure or FRU, as applicable, in order for Motorola to Restore the System as set forth in paragraph 2.15.2.

3.13 Maintain and store in an easily accessible location System backups and any/all Software needed to restore the System.

3.14 Verify with the SSC that Restoration is complete or System is functional, if required by the Repair Verification Preference provided by Customer in accordance with section 3.6.3.

3.15 Comply with the terms of the applicable license agreements between Customer and the Non-Motorola Software copyright owners.

3.16 Cooperate with Motorola and perform all acts that are reasonable or necessary to enable Motorola to provide the services described in this SOW.

WARRANTIES AND DISCLAIMER:

Motorola warrants that its services will be free of defects in materials and workmanship for a period of ninety (90) days following completion of the service. Your sole remedies are to require Motorola to re-perform the affected service or at Motorola's option to refund, on a pro-rata basis, the service fees paid for the affected service.

During the applicable Warranty Period, Motorola warrants that the tested anti-virus definitions, intrusion detection sensor signatures, and operating system security updates/patches provided if PTSS is procured or provided via ESS, do not degrade or compromise System functionality, and that after incorporation of the tested Software updates, the System Software, when used properly and in accordance with the Documentation, will be free from a reproducible defect that eliminates the functionality or successful operation of a feature critical to the primary functionality or successful operation of the Software. Product and Software documentation that specifies technical and performance features and capabilities, and the user, operation and training manuals for the Software (including all physical or electronic media upon which this information is provided) are collectively referred to as "Documentation." Whether a defect occurs will be determined solely with reference to the Documentation. Motorola does not warrant that Customer's use of the Software or Products will be uninterrupted or error-free or that the Software or the Products will meet Customer's particular requirements.

Motorola disclaims all other warranties with respect intrusion detection sensor signature files, express or implied, including the implied warranties of merchantability, fitness for a particular purpose, and non-infringement. Further, Motorola disclaims any warranty concerning the non-Motorola software and does not guarantee that customer's system will be error-free or immune to viruses or worms as a result of these services.

Severity Definitions Table

Severity Level	Problem Types
Severity 1	Response is provided Continuously Major System failure 33% of System down 33% of Site channels down • This level is meant to represent a major issue that results in an unusable system, sub-system, Product, or critical features from the Customer's perspective. No Work-around or immediate solution is available.
Severity 2	▪ Response during Standard Business Day ▪ Significant System Impairment not to exceed 33% of system down ▪ System problems presently being monitored ▪ This level is meant to represent a moderate issue that limits a Customer's normal use of the system, sub-system, product, or major non-critical features from a Customer's perspective
Severity 3	▪ Response during Standard Business Day ▪ Intermittent system issues ▪ Information questions ▪ Upgrades/Preventative maintenance ▪ This level is meant to represent a minor issue that does not preclude use of the system, sub-system, product, or critical features from a Customer's perspective. It may also represent a cosmetic issue, including documentation errors, general usage questions, recommendations for product enhancements or modifications, and scheduled events such as preventative maintenance or product/system upgrades.

On-Site Response Time Table (Customer's Response Time Classification is designated in the Service Agreement).

Severity Level	Standard Response Time	Premier Response Time	Limited Response Time	Restoral	Off Deferral
Severity 1	Within 4 hours from receipt of Notification Continuously	Within 2 hours from receipt of Notification Continuously	Within 4 hours from receipt of Notification Standard Business Day	8 hours	Time provided by Servicer *
Severity 2	Within 4 hours from receipt of Notification Standard Business	Within 4 hours from receipt of Notification Standard Business	Within 4 hours from receipt of Notification Standard Business	8 hours	Time provided by Servicer *

Severity Level	Standard Response Time	Premier Response Time	Limited Response Time	Restoral	Off Deferral
	Day	Day	Day		
Severity 3	Within 24 hours from receipt of Notification Standard Business Day	Within 24 hours from receipt of Notification Standard Business Day	Within 24 hours from receipt of Notification Standard Business Day	48 hours	Time provided by Servicer *

- Please note these are Standard Commitment times. The commitment times should be based on the Customers Support Plan.
- Provide update **before** the specific contractual commitments come due.
  * Note: Provide update to System Support Center **before** Deferral time comes due.

Connectivity Matrix

Private Network Connection IP T1 (All Customers)	**Public Internet Connection IP T1 (Option Available only to Customers outside of the US)**
Standard solution for real-time Connectivity	Non-standard solution for real-time Connectivity
Dedicated bandwidth configuration provided to monitor Customers	No dedicated bandwidth provided to monitor Customers
Protected from unauthorized intrusion	Low risk of unauthorized intrusion
Encryption Available	Encryption Available
Connectivity available through Motorola	Customer provides Connectivity to the internet via an internet service provider selected by Customer

Motorola Owned & Supplied Equipment Table

Equipment Type	Location Installed
Firewall/Router	Master Site
System Support Server	Master Site for each Zone

Monitored Elements Table

(Listed by Technology)

System Type	Equipment
ASTRO 25 (release 7.x)	Packet Routing Network; Zone Controllers; Database Server; FullVision Server; Zone Statistical Server; Air Traffic Router; System Statistics Server; User Configuration Server; Packet Data Gateway Server; PBX; Interconnect Server; Motorola Gold Elite Gateway (MGEG); AEB; CEB; Conventional Channel Gateway (CCGW); Simulcast RF Site (Site Controllers, Comparators, Stations); Intelli Repeater RF Site (Stations); Intelli Site Repeater RF Site (Site Controllers, Stations); Core, Exit, Gateway, Peripheral, Border, and Site routers, HP Switches master, prime, console and repeater sites switches, GGSN; CWR MOSCAD Overlay (TenSr, Station, Channel Banks, TRAK GPS, Site Power, Microwave) DOES NOT INCLUDE MONITORING OF ANY MOSCAD ALARM POINTS THAT DO NOT DIRECTLY IMPACT THE PERFORMANCE OF THE RADIO NETWORK. DOES NOT INCLUDE MONITORING OF ANYTHING OUTSIDE OF THE RADIO NETWORK UNLESS SPECIFICALLY STATED
ASTRO 25 (release 6.3 – 6.9)	Nortel; Packet Routing Network; Zone Controllers; Database Server; FullVision Server; Zone Statistical Server; Air Traffic Router; System Statistics Server; User Configuration Server; Packet Data Gateway Server; PBX; Interconnect Server; Motorola Gold Elite Gateway (MGEG); AEB; CEB; ARCADACS Cross Connect Switch; Simulcast RF Site (Site Controllers, Comparators, Stations); Intelli Repeater RF Site (Stations);Intelli Site Repeater RF Site (Site Controllers, Stations); MOSCAD Overlay (TenSr, Station, Channel Banks, TRAK GPS, Site Power, Microwave) **Does not include monitoring of any MOSCAD alarm points that do not directly impact the performance of the radio network. Does not include monitoring of anything outside of the radio network unless specifically stated.**
Security Elements (Monitoring and managing Security Elements is dependent on Customer purchasing Core Security Management Server as Equipment with the Customer System)	Core Security Management Server; Firewall; Intrusion Detection Sensors; Anti-virus Management application; Authentication Management application; Centralized Logging Server

Boynton Beach Subscribers

Qty	Model Name	Model Number	Serial Number	Model Type
1	APX6000	H98UCF9PW6AN	481CSH0930	Model 2.5
2	APX6000	H98UCF9PW6AN	481CSH0931	Model 2.5
3	APX6000	H98UCF9PW6AN	481CSH0932	Model 2.5
4	APX6000	H98UCF9PW6AN	481CSH0933	Model 2.5
5	APX6000	H98UCF9PW6AN	481CSH0934	Model 2.5
6	APX6000	H98UCF9PW6AN	481CSH0935	Model 2.5
7	APX6000	H98UCF9PW6AN	481CSH0936	Model 2.5
8	APX6000	H98UCF9PW6AN	481CSH0937	Model 2.5
9	APX6000	H98UCF9PW6AN	481CSH0938	Model 2.5
10	APX6000	H98UCF9PW6AN	481CSH0939	Model 2.5
11	APX6000	H98UCF9PW6AN	481CSH0940	Model 2.5
12	APX6000	H98UCF9PW6AN	481CSH0941	Model 2.5
13	APX6000	H98UCF9PW6AN	481CSH0942	Model 2.5
14	APX6000	H98UCF9PW6AN	481CSH0943	Model 2.5
15	APX6000	H98UCF9PW6AN	481CSH0944	Model 2.5
16	APX6000	H98UCF9PW6AN	481CSH0945	Model 2.5
17	APX6000	H98UCF9PW6AN	481CSH0946	Model 2.5
18	APX6000	H98UCF9PW6AN	481CSH0947	Model 2.5
19	APX6000	H98UCF9PW6AN	481CSH0948	Model 2.5
20	APX6000	H98UCF9PW6AN	481CSH0949	Model 2.5
21	APX6000	H98UCF9PW6AN	481CSH0950	Model 2.5
22	APX6000	H98UCF9PW6AN	481CSH0951	Model 2.5
23	APX6000	H98UCF9PW6AN	481CSH0952	Model 2.5
24	APX6000	H98UCF9PW6AN	481CSH0953	Model 2.5
25	APX6000	H98UCF9PW6AN	481CSH0954	Model 2.5
26	APX6000	H98UCF9PW6AN	481CSH0955	Model 2.5
27	APX6000	H98UCF9PW6AN	481CSH0956	Model 2.5
28	APX6000	H98UCF9PW6AN	481CSH0957	Model 2.5
29	APX6000	H98UCF9PW6AN	481CSH0958	Model 2.5
30	APX6000	H98UCF9PW6AN	481CSH0959	Model 2.5
31	APX6000	H98UCF9PW6AN	481CSH0960	Model 2.5
32	APX6000	H98UCF9PW6AN	481CSH0961	Model 2.5
33	APX6000	H98UCF9PW6AN	481CSH0962	Model 2.5
34	APX6000	H98UCF9PW6AN	481CSH0963	Model 2.5
35	APX6000	H98UCF9PW6AN	481CSH0964	Model 2.5
36	APX6000	H98UCF9PW6AN	481CSH0965	Model 2.5
37	APX6000	H98UCF9PW6AN	481CSH0966	Model 2.5
38	APX6000	H98UCF9PW6AN	481CSH0967	Model 2.5
39	APX6000	H98UCF9PW6AN	481CSH0968	Model 2.5
40	APX6000	H98UCF9PW6AN	481CSH0969	Model 2.5
41	APX6000	H98UCF9PW6AN	481CSH0970	Model 2.5
42	APX6000	H98UCF9PW6AN	481CSH0971	Model 2.5

43	APX6000	H98UCF9PW6AN	481CSH0972	Model 2.5
44	APX6000	H98UCF9PW6AN	481CSH0973	Model 2.5
45	APX6000	H98UCF9PW6AN	481CSH0974	Model 2.5
46	APX6000	H98UCF9PW6AN	481CSH0975	Model 2.5
47	APX6000	H98UCF9PW6AN	481CSH0976	Model 2.5
48	APX6000	H98UCF9PW6AN	481CSH0977	Model 2.5
49	APX6000	H98UCF9PW6AN	481CSH0978	Model 2.5
50	APX6000	H98UCF9PW6AN	481CSH0979	Model 2.5
51	APX6000	H98UCF9PW6AN	481CSH0980	Model 2.5
52	APX6000	H98UCF9PW6AN	481CSH0981	Model 2.5
53	APX6000	H98UCF9PW6AN	481CSH0982	Model 2.5
54	APX6000	H98UCF9PW6AN	481CSH0983	Model 2.5
55	APX6000	H98UCF9PW6AN	481CSH0984	Model 2.5
56	APX6000	H98UCF9PW6AN	481CSH0985	Model 2.5
57	APX6000	H98UCF9PW6AN	481CSH0986	Model 2.5
58	APX6000	H98UCF9PW6AN	481CSH0987	Model 2.5
59	APX6000	H98UCF9PW6AN	481CSH0988	Model 2.5
60	APX6000	H98UCF9PW6AN	481CSH0989	Model 2.5
61	APX6000	H98UCF9PW6AN	481CSH0990	Model 2.5
62	APX6000	H98UCF9PW6AN	481CSH0991	Model 2.5
63	APX6000	H98UCF9PW6AN	481CSH0992	Model 2.5
64	APX6000	H98UCF9PW6AN	481CSH0993	Model 2.5
65	APX6000	H98UCF9PW6AN	481CSH0994	Model 2.5
66	APX6000	H98UCF9PW6AN	481CSH0995	Model 2.5
67	APX6000	H98UCF9PW6AN	481CSH0996	Model 2.5
68	APX6000	H98UCF9PW6AN	481CSH0997	Model 2.5
69	APX6000	H98UCF9PW6AN	481CSH0998	Model 2.5
70	APX6000	H98UCF9PW6AN	481CSH0999	Model 2.5
71	APX6000	H98UCF9PW6AN	481CSH1000	Model 2.5
72	APX6000	H98UCF9PW6AN	481CSH1001	Model 2.5
73	APX6000	H98UCF9PW6AN	481CSH1002	Model 2.5
74	APX6000	H98UCF9PW6AN	481CSH1003	Model 2.5
75	APX6000	H98UCF9PW6AN	481CSH1004	Model 2.5
76	APX6000	H98UCF9PW6AN	481CSH1005	Model 2.5
77	APX6000	H98UCF9PW6AN	481CSH1006	Model 2.5
78	APX6000	H98UCF9PW6AN	481CSH1007	Model 2.5
79	APX6000	H98UCF9PW6AN	481CSH1008	Model 2.5
80	APX6000	H98UCF9PW6AN	481CSH1009	Model 2.5
81	APX6000	H98UCF9PW6AN	481CSH1010	Model 2.5
82	APX6000	H98UCF9PW6AN	481CSH1011	Model 2.5
83	APX6000	H98UCF9PW6AN	481CSH1012	Model 2.5
84	APX6000	H98UCF9PW6AN	481CSH1013	Model 2.5
85	APX6000	H98UCF9PW6AN	481CSH1014	Model 2.5
86	APX6000	H98UCF9PW6AN	481CSH1015	Model 2.5
87	APX6000	H98UCF9PW6AN	481CSH1016	Model 2.5
88	APX6000	H98UCF9PW6AN	481CSH1017	Model 2.5
89	APX6000	H98UCF9PW6AN	481CSH1018	Model 2.5

90	APX6000	H98UCF9PW6AN	481CSH1019	Model 2.5
91	APX6000	H98UCF9PW6AN	481CSH1020	Model 2.5
92	APX6000	H98UCF9PW6AN	481CSH1021	Model 2.5
93	APX6000	H98UCF9PW6AN	481CSH1022	Model 2.5
94	APX6000	H98UCF9PW6AN	481CSH1023	Model 2.5
95	APX6000	H98UCF9PW6AN	481CSH1024	Model 2.5
96	APX6000	H98UCF9PW6AN	481CSH1025	Model 2.5
97	APX6000	H98UCF9PW6AN	481CSH1026	Model 2.5
98	APX6000	H98UCF9PW6AN	481CSH1027	Model 2.5
99	APX6000	H98UCF9PW6AN	481CSH1028	Model 2.5
100	APX6000	H98UCF9PW6AN	481CSH1029	Model 2.5
101	APX6000	H98UCF9PW6AN	481CSH1030	Model 2.5
102	APX6000	H98UCF9PW6AN	481CSH1031	Model 2.5
103	APX6000	H98UCF9PW6AN	481CSH1032	Model 2.5
104	APX6000	H98UCF9PW6AN	481CSH1033	Model 2.5
105	APX6000	H98UCF9PW6AN	481CSH1034	Model 2.5
106	APX6000	H98UCF9PW6AN	481CSH1035	Model 2.5
107	APX6000	H98UCF9PW6AN	481CSH1036	Model 2.5
108	APX6000	H98UCF9PW6AN	481CSH1037	Model 2.5
109	APX6000	H98UCF9PW6AN	481CSH1038	Model 2.5
110	APX6000	H98UCF9PW6AN	481CSH1039	Model 2.5
111	APX6000	H98UCF9PW6AN	481CSH1040	Model 2.5
112	APX6000	H98UCF9PW6AN	481CSH1041	Model 2.5
113	APX6000	H98UCF9PW6AN	481CSH1042	Model 2.5
114	APX6000	H98UCF9PW6AN	481CSH1043	Model 2.5
115	APX6000	H98UCF9PW6AN	481CSH1044	Model 2.5
116	APX6000	H98UCF9PW6AN	481CSH1045	Model 2.5
117	APX6000	H98UCF9PW6AN	481CSH1046	Model 2.5
118	APX6000	H98UCF9PW6AN	481CSH1047	Model 2.5
119	APX6000	H98UCF9PW6AN	481CSH1048	Model 2.5
120	APX6000	H98UCF9PW6AN	481CSH1049	Model 2.5
121	APX6000	H98UCF9PW6AN	481CSH1050	Model 2.5
122	APX6000	H98UCF9PW6AN	481CSH1051	Model 2.5
123	APX6000	H98UCF9PW6AN	481CSH1052	Model 2.5
124	APX6000	H98UCF9PW6AN	481CSH1053	Model 2.5
125	APX6000	H98UCF9PW6AN	481CSH1054	Model 2.5
126	APX6000	H98UCF9PW6AN	481CSH1055	Model 2.5
127	APX6000	H98UCF9PW6AN	481CSH1056	Model 2.5
128	APX6000	H98UCF9PW6AN	481CSH1057	Model 2.5
129	APX6000	H98UCF9PW6AN	481CSH1058	Model 2.5
130	APX6000	H98UCF9PW6AN	481CSH1059	Model 2.5
131	APX6000	H98UCF9PW6AN	481CSH1060	Model 2.5
132	APX6000	H98UCF9PW6AN	481CSH1061	Model 2.5
133	APX6000	H98UCF9PW6AN	481CSH1062	Model 2.5
134	APX6000	H98UCF9PW6AN	481CSH1063	Model 2.5
135	APX6000	H98UCF9PW6AN	481CSH1064	Model 2.5
136	APX6000	H98UCF9PW6AN	481CSH1065	Model 2.5

137	APX6000	H98UCF9PW6AN	481CSH1066	Model 2.5
138	APX6000	H98UCF9PW6AN	481CSH1067	Model 2.5
139	APX6000	H98UCF9PW6AN	481CSH1068	Model 2.5
140	APX6000	H98UCF9PW6AN	481CSH1069	Model 2.5
141	APX6000	H98UCF9PW6AN	481CSH1070	Model 2.5
142	APX6000	H98UCF9PW6AN	481CSH1071	Model 2.5
143	APX6000	H98UCF9PW6AN	481CSH1072	Model 2.5
144	APX6000	H98UCF9PW6AN	481CSH1073	Model 2.5
145	APX6000	H98UCF9PW6AN	481CSH1074	Model 2.5
146	APX6000	H98UCF9PW6AN	481CSH1075	Model 2.5
147	APX6000	H98UCF9PW6AN	481CSH1076	Model 2.5
148	APX6000	H98UCF9PW6AN	481CSH1077	Model 2.5
149	APX6000	H98UCF9PW6AN	481CSH1078	Model 2.5
150	APX6000	H98UCF9PW6AN	481CSH1079	Model 2.5
151	APX6000	H98UCF9PW6AN	481CSH1080	Model 2.5
152	APX6000	H98UCF9PW6AN	481CSH1081	Model 2.5
153	APX6000	H98UCF9PW6AN	481CSH1082	Model 2.5
154	APX6000	H98UCF9PW6AN	481CSH1083	Model 2.5
155	APX6000	H98UCF9PW6AN	481CSH1084	Model 2.5
156	APX6000	H98UCF9PW6AN	481CSH1085	Model 2.5
157	APX6000	H98UCF9PW6AN	481CSH1086	Model 2.5
158	APX6000	H98UCF9PW6AN	481CSH1087	Model 2.5
159	APX6000	H98UCF9PW6AN	481CSH1088	Model 2.5
160	APX6000	H98UCF9PW6AN	481CSH1089	Model 2.5
161	APX6000	H98UCF9PW6AN	481CSH1090	Model 2.5
162	APX6000	H98UCF9PW6AN	481CSH1091	Model 2.5
163	APX6000	H98UCF9PW6AN	481CSH1092	Model 2.5
164	APX6000	H98UCF9PW6AN	481CSH1093	Model 2.5
165	APX6000	H98UCF9PW6AN	481CSH1094	Model 2.5
166	APX6000	H98UCF9PW6AN	481CSH1095	Model 2.5
167	APX6000	H98UCF9PW6AN	481CSH1096	Model 2.5
168	APX6000	H98UCF9PW6AN	481CSH1097	Model 2.5
169	APX6000	H98UCF9PW6AN	481CSH1098	Model 2.5
170	APX6000	H98UCF9PW6AN	481CSH1099	Model 2.5
171	APX6000	H98UCF9PW6AN	481CSH1100	Model 2.5
172	APX6000	H98UCF9PW6AN	481CSH1101	Model 2.5
173	APX6000	H98UCF9PW6AN	481CSH1102	Model 2.5
174	APX6000	H98UCF9PW6AN	481CSH1103	Model 2.5
175	APX6000	H98UCF9PW6AN	481CSH1104	Model 2.5
176	APX6000	H98UCF9PW6AN	481CSH1105	Model 2.5
177	APX6000	H98UCF9PW6AN	481CSH1106	Model 2.5
178	APX6000	H98UCF9PW6AN	481CSH1107	Model 2.5
179	APX6000	H98UCF9PW6AN	481CSH1108	Model 2.5
180	APX6000	H98UCF9PW6AN	481CSH1109	Model 2.5
181	APX6000	H98UCF9PW6AN	481CSH1110	Model 2.5
182	APX6000	H98UCF9PW6AN	481CSH1111	Model 2.5
183	APX6000	H98UCF9PW6AN	481CSH1112	Model 2.5

184	APX6000	H98UCF9PW6AN	481CSH1113	Model 2.5
185	APX6000	H98UCF9PW6AN	481CSH1114	Model 2.5
186	APX6000	H98UCF9PW6AN	481CSH1115	Model 2.5
187	APX6000	H98UCF9PW6AN	481CSH1116	Model 2.5
188	APX6000	H98UCF9PW6AN	481CSH1117	Model 2.5
189	APX6000	H98UCF9PW6AN	481CSH1118	Model 2.5
190	APX6000	H98UCF9PW6AN	481CSH1119	Model 2.5
191	APX6000	H98UCF9PW6AN	481CSH1120	Model 2.5
192	APX6000	H98UCF9PW6AN	481CSH1121	Model 2.5
193	APX6000	H98UCF9PW6AN	481CSH1122	Model 2.5
194	APX6000	H98UCF9PW6AN	481CSH1123	Model 2.5
195	APX6000	H98UCF9PW6AN	481CSH1124	Model 2.5
196	APX6000	H98UCF9PW6AN	481CSH1125	Model 2.5
197	APX6000	H98UCF9PW6AN	481CSH1126	Model 2.5
198	APX6000	H98UCF9PW6AN	481CSH1127	Model 2.5
199	APX6000	H98UCF9PW6AN	481CSH1128	Model 2.5
200	APX6000	H98UCF9PW6AN	481CSH1129	Model 2.5
201	APX6000	H98UCF9PW6AN	481CSH1130	Model 2.5
202	APX6000	H98UCF9PW6AN	481CSH1131	Model 2.5
203	APX6000	H98UCF9PW6AN	481CSH1132	Model 2.5
204	APX6000	H98UCF9PW6AN	481CSH1133	Model 2.5
205	APX6000	H98UCF9PW6AN	481CSH1134	Model 2.5
206	APX6000	H98UCF9PW6AN	481CSH1135	Model 2.5
207	APX6000	H98UCF9PW6AN	481CSH1136	Model 2.5
208	APX6000	H98UCF9PW6AN	481CSH1137	Model 2.5
209	APX6000	H98UCF9PW6AN	481CSH1138	Model 2.5
210	APX6000	H98UCF9PW6AN	481CSH1139	Model 2.5
211	APX6000	H98UCF9PW6AN	481CSH1140	Model 2.5
212	APX6000	H98UCF9PW6AN	481CSH1141	Model 2.5
213	APX6000	H98UCF9PW6AN	481CSH1142	Model 2.5
214	APX6000	H98UCF9PW6AN	481CSH1143	Model 2.5
215	APX6000	H98UCF9PW6AN	481CSH1144	Model 2.5
216	APX6000	H98UCF9PW6AN	481CSH1145	Model 2.5
217	APX6000	H98UCF9PW6AN	481CSH1146	Model 2.5
218	APX6000	H98UCF9PW6AN	481CSH1147	Model 2.5
219	APX6000	H98UCF9PW6AN	481CSH1148	Model 2.5
220	APX6000	H98UCF9PW6AN	481CSH1149	Model 2.5
221	APX6000	H98UCF9PW6AN	481CSH1150	Model 2.5
222	APX6000	H98UCF9PW6AN	481CSH1151	Model 2.5
223	APX6000	H98UCF9PW6AN	481CSH1152	Model 2.5
224	APX6000	H98UCF9PW6AN	481CSH1153	Model 2.5
225	APX6000	H98UCF9PW6AN	481CSH1154	Model 2.5
226	APX6000	H98UCF9PW6AN	481CSH1155	Model 2.5
227	APX6000	H98UCF9PW6AN	481CSH1156	Model 2.5

1	APX6000	H98UCD9PW5AN	756CSF0290	Model 1.5
2	APX6000	H98UCD9PW5AN	756CSF0291	Model 1.5

3	APX6000	H98UCD9PW5AN	756CSF0292	Model 1.5
4	APX6000	H98UCD9PW5AN	756CSF0293	Model 1.5
5	APX6000	H98UCD9PW5AN	756CSF0294	Model 1.5
6	APX6000	H98UCD9PW5AN	756CSF0295	Model 1.5
7	APX6000	H98UCD9PW5AN	756CSF0296	Model 1.5
8	APX6000	H98UCD9PW5AN	756CSF0297	Model 1.5
9	APX6000	H98UCD9PW5AN	756CSF0298	Model 1.5
10	APX6000	H98UCD9PW5AN	756CSF0299	Model 1.5
11	APX6000	H98UCD9PW5AN	756CSF0300	Model 1.5
12	APX6000	H98UCD9PW5AN	756CSF0301	Model 1.5
13	APX6000	H98UCD9PW5AN	756CSF0302	Model 1.5
14	APX6000	H98UCD9PW5AN	756CSF0303	Model 1.5
15	APX6000	H98UCD9PW5AN	756CSF0304	Model 1.5
16	APX6000	H98UCD9PW5AN	756CSF0305	Model 1.5
17	APX6000	H98UCD9PW5AN	756CSF0306	Model 1.5
18	APX6000	H98UCD9PW5AN	756CSF0307	Model 1.5
19	APX6000	H98UCD9PW5AN	756CSF0308	Model 1.5
20	APX6000	H98UCD9PW5AN	756CSF0309	Model 1.5
21	APX6000	H98UCD9PW5AN	756CSF0310	Model 1.5
22	APX6000	H98UCD9PW5AN	756CSF0311	Model 1.5
23	APX6000	H98UCD9PW5AN	756CSF0312	Model 1.5
24	APX6000	H98UCD9PW5AN	756CSF0313	Model 1.5
25	APX6000	H98UCD9PW5AN	756CSF0314	Model 1.5
26	APX6000	H98UCD9PW5AN	756CSF0315	Model 1.5
27	APX6000	H98UCD9PW5AN	756CSF0316	Model 1.5
28	APX6000	H98UCD9PW5AN	756CSF0317	Model 1.5
29	APX6000	H98UCD9PW5AN	756CSF0318	Model 1.5
30	APX6000	H98UCD9PW5AN	756CSF0319	Model 1.5
31	APX6000	H98UCD9PW5AN	756CSF0320	Model 1.5
32	APX6000	H98UCD9PW5AN	756CSF0321	Model 1.5
33	APX6000	H98UCD9PW5AN	756CSF0322	Model 1.5
34	APX6000	H98UCD9PW5AN	756CSF0323	Model 1.5
35	APX6000	H98UCD9PW5AN	756CSF0324	Model 1.5
36	APX6000	H98UCD9PW5AN	756CSF0325	Model 1.5
37	APX6000	H98UCD9PW5AN	756CSF0326	Model 1.5
38	APX6000	H98UCD9PW5AN	756CSF0327	Model 1.5
39	APX6000	H98UCD9PW5AN	756CSF0328	Model 1.5
40	APX6000	H98UCD9PW5AN	756CSF0329	Model 1.5
41	APX6000	H98UCD9PW5AN	756CSF0330	Model 1.5
42	APX6000	H98UCD9PW5AN	756CSF0331	Model 1.5
43	APX6000	H98UCD9PW5AN	756CSF0332	Model 1.5
44	APX6000	H98UCD9PW5AN	756CSF0333	Model 1.5
45	APX6000	H98UCD9PW5AN	756CSF0334	Model 1.5
46	APX6000	H98UCD9PW5AN	756CSF0335	Model 1.5
47	APX6000	H98UCD9PW5AN	756CSF0336	Model 1.5
48	APX6000	H98UCD9PW5AN	756CSF0337	Model 1.5
49	APX6000	H98UCD9PW5AN	756CSF0338	Model 1.5

50	APX6000	H98UCD9PW5AN	756CSF0339	Model 1.5
51	APX6000	H98UCD9PW5AN	756CSF0340	Model 1.5
52	APX6000	H98UCD9PW5AN	756CSF0341	Model 1.5
53	APX6000	H98UCD9PW5AN	756CSF0342	Model 1.5
54	APX6000	H98UCD9PW5AN	756CSF0343	Model 1.5
55	APX6000	H98UCD9PW5AN	756CSF0344	Model 1.5
56	APX6000	H98UCD9PW5AN	756CSF0345	Model 1.5
57	APX6000	H98UCD9PW5AN	756CSF0346	Model 1.5
58	APX6000	H98UCD9PW5AN	756CSF0347	Model 1.5
59	APX6000	H98UCD9PW5AN	756CSF0348	Model 1.5
60	APX6000	H98UCD9PW5AN	756CSF0349	Model 1.5
61	APX6000	H98UCD9PW5AN	756CSF0350	Model 1.5
62	APX6000	H98UCD9PW5AN	756CSF0351	Model 1.5
63	APX6000	H98UCD9PW5AN	756CSF0352	Model 1.5
64	APX6000	H98UCD9PW5AN	481CSF3837	Model 1.5
65	APX6000	H98UCD9PW5AN	481CSF3838	Model 1.5
66	APX6000	H98UCD9PW5AN	481CSF3839	Model 1.5
67	APX6000	H98UCD9PW5AN	481CSF3840	Model 1.5
68	APX6000	H98UCD9PW5AN	481CSF3841	Model 1.5
69	APX6000	H98UCD9PW5AN	481CSF3842	Model 1.5
70	APX6000	H98UCD9PW5AN	481CSF3843	Model 1.5
71	APX6000	H98UCD9PW5AN	481CSF3844	Model 1.5
72	APX6000	H98UCD9PW5AN	481CSF3845	Model 1.5
73	APX6000	H98UCD9PW5AN	481CSF3846	Model 1.5
74	APX6000	H98UCD9PW5AN	481CSF3847	Model 1.5
75	APX6000	H98UCD9PW5AN	481CSF3848	Model 1.5
76	APX6000	H98UCD9PW5AN	481CSF3849	Model 1.5
77	APX6000	H98UCD9PW5AN	481CSF3850	Model 1.5
78	APX6000	H98UCD9PW5AN	481CSF3851	Model 1.5
79	APX6000	H98UCD9PW5AN	481CSF3852	Model 1.5
80	APX6000	H98UCD9PW5AN	481CSF3853	Model 1.5
81	APX6000	H98UCD9PW5AN	481CSF3854	Model 1.5
82	APX6000	H98UCD9PW5AN	481CSF3855	Model 1.5
83	APX6000	H98UCD9PW5AN	481CSF3856	Model 1.5
84	APX6000	H98UCD9PW5AN	481CSF3857	Model 1.5
85	APX6000	H98UCD9PW5AN	481CSF3858	Model 1.5

1	APX4000	H51UCF9PW6AN	426CSF2014	Model 2
2	APX4000	H51UCF9PW6AN	426CSF2015	Model 2
3	APX4000	H51UCF9PW6AN	426CSF2016	Model 2
4	APX4000	H51UCF9PW6AN	426CSF2017	Model 2
5	APX4000	H51UCF9PW6AN	426CSF2018	Model 2
6	APX4000	H51UCF9PW6AN	426CSF2019	Model 2
7	APX4000	H51UCF9PW6AN	426CSF2020	Model 2
8	APX4000	H51UCF9PW6AN	426CSF2021	Model 2
9	APX4000	H51UCF9PW6AN	426CSF2022	Model 2
10	APX4000	H51UCF9PW6AN	426CSF2023	Model 2

11	APX4000	H51UCF9PW6AN	426CSF2024	Model 2
12	APX4000	H51UCF9PW6AN	426CSF2025	Model 2
13	APX4000	H51UCF9PW6AN	426CSF2026	Model 2
14	APX4000	H51UCF9PW6AN	426CSF2027	Model 2
15	APX4000	H51UCF9PW6AN	426CSF2028	Model 2
16	APX4000	H51UCF9PW6AN	426CSF2029	Model 2
17	APX4000	H51UCF9PW6AN	426CSF2030	Model 2
18	APX4000	H51UCF9PW6AN	426CSF2031	Model 2
19	APX4000	H51UCF9PW6AN	426CSF2032	Model 2

1	APX6500	M25URS9PW1AN	527CRH0812	Mid Power
2	APX6500	M25URS9PW1AN	527CRH0813	Mid Power
3	APX6500	M25URS9PW1AN	527CQK2029	Mid Power
4	APX6500	M25URS9PW1AN	527CRR1426	Mid Power
5	APX6500	M25URS9PW1AN	527CSF2257	Mid Power
6	APX6500	M25URS9PW1AN	527CSF2258	Mid Power
7	APX6500	M25URS9PW1AN	527CSF2259	Mid Power
8	APX6500	M25URS9PW1AN	527CSF2260	Mid Power
9	APX6500	M25URS9PW1AN	527CSF2261	Mid Power
10	APX6500	M25URS9PW1AN	527CSF2262	Mid Power
11	APX6500	M25URS9PW1AN	527CSF2263	Mid Power
12	APX6500	M25URS9PW1AN	527CSF2264	Mid Power
13	APX6500	M25URS9PW1AN	527CSF2265	Mid Power
14	APX6500	M25URS9PW1AN	527CSF2266	Mid Power
15	APX6500	M25URS9PW1AN	527CSF2267	Mid Power
16	APX6500	M25URS9PW1AN	527CSF2268	Mid Power
17	APX6500	M25URS9PW1AN	527CSF2269	Mid Power
18	APX6500	M25URS9PW1AN	527CSF2270	Mid Power
19	APX6500	M25URS9PW1AN	527CSF2271	Mid Power
20	APX6500	M25URS9PW1AN	527CSF2272	Mid Power
21	APX6500	M25URS9PW1AN	527CSF2273	Mid Power
22	APX6500	M25URS9PW1AN	527CSF2274	Mid Power
23	APX6500	M25URS9PW1AN	527CSF2275	Mid Power
24	APX6500	M25URS9PW1AN	527CSF2276	Mid Power
25	APX6500	M25URS9PW1AN	527CSF2317	Mid Power
26	APX6500	M25URS9PW1AN	527CFS2318	Mid Power
27	APX6500	M25URS9PW1AN	527CFS2319	Mid Power
28	APX6500	M25URS9PW1AN	527CSF2320	Mid Power
29	APX6500	M25URS9PW1AN	527CSF2321	Mid Power
30	APX6500	M25URS9PW1AN	527CSF2322	Mid Power
31	APX6500	M25URS9PW1AN	527CSF2323	Mid Power
32	APX6500	M25URS9PW1AN	527CSF2324	Mid Power
33	APX6500	M25URS9PW1AN	527CSF2325	Mid Power
34	APX6500	M25URS9PW1AN	527CSF2326	Mid Power
35	APX6500	M25URS9PW1AN	527CSF2327	Mid Power
36	APX6500	M25URS9PW1AN	527CSF2328	Mid Power
37	APX6500	M25URS9PW1AN	527CSF2329	Mid Power

38	APX6500	M25URS9PW1AN	527CSF2330	Mid Power
39	APX6500	M25URS9PW1AN	527CSF2331	Mid Power
40	APX6500	M25URS9PW1AN	527CSF2332	Mid Power
41	APX6500	M25URS9PW1AN	527CSF2333	Mid Power
42	APX6500	M25URS9PW1AN	527CSF2334	Mid Power
43	APX6500	M25URS9PW1AN	527CSF2335	Mid Power
44	APX6500	M25URS9PW1AN	527CSF2336	Mid Power
45	APX6500	M25URS9PW1AN	527CSF2337	Mid Power
46	APX6500	M25URS9PW1AN	527CSF2338	Mid Power
47	APX6500	M25URS9PW1AN	527CSF2339	Mid Power
48	APX6500	M25URS9PW1AN	527CSF2380	Mid Power
49	APX6500	M25URS9PW1AN	527CSF2441	Mid Power
50	APX6500	M25URS9PW1AN	527CSF2442	Mid Power
51	APX6500	M25URS9PW1AN	527CSF2443	Mid Power
52	APX6500	M25URS9PW1AN	527CSF2444	Mid Power
53	APX6500	M25URS9PW1AN	527CSF2445	Mid Power
54	APX6500	M25URS9PW1AN	527CSF2446	Mid Power
55	APX6500	M25URS9PW1AN	527CSF2447	Mid Power
56	APX6500	M25URS9PW1AN	527CSF2448	Mid Power
57	APX6500	M25URS9PW1AN	527CSF2449	Mid Power
58	APX6500	M25URS9PW1AN	527CSF2450	Mid Power
59	APX6500	M25URS9PW1AN	527CSF2451	Mid Power
60	APX6500	M25URS9PW1AN	527CSF2452	Mid Power
61	APX6500	M25URS9PW1AN	527CSF2453	Mid Power
62	APX6500	M25URS9PW1AN	527CSF2454	Mid Power
63	APX6500	M25URS9PW1AN	527CSF2455	Mid Power
64	APX6500	M25URS9PW1AN	527CSF2456	Mid Power
65	APX6500	M25URS9PW1AN	527CSF2457	Mid Power
66	APX6500	M25URS9PW1AN	527CSF2458	Mid Power
67	APX6500	M25URS9PW1AN	527CSF2459	Mid Power
68	APX6500	M25URS9PW1AN	527CSF2460	Mid Power
69	APX6500	M25URS9PW1AN	527CSF2495	Mid Power
70	APX6500	M25URS9PW1AN	527CSF2496	Mid Power
71	APX6500	M25URS9PW1AN	527CSF2497	Mid Power
72	APX6500	M25URS9PW1AN	527CSF2498	Mid Power
73	APX6500	M25URS9PW1AN	527CSF2499	Mid Power
74	APX6500	M25URS9PW1AN	527CSF2500	Mid Power
75	APX6500	M25URS9PW1AN	527CSF2501	Mid Power
76	APX6500	M25URS9PW1AN	527CSF2502	Mid Power
77	APX6500	M25URS9PW1AN	527CSF2503	Mid Power
78	APX6500	M25URS9PW1AN	527CSF2504	Mid Power
79	APX6500	M25URS9PW1AN	527CSF2505	Mid Power
80	APX6500	M25URS9PW1AN	527CSF2506	Mid Power
81	APX6500	M25URS9PW1AN	527CSF2507	Mid Power
82	APX6500	M25URS9PW1AN	527CSF2508	Mid Power
83	APX6500	M25URS9PW1AN	527CSF2509	Mid Power
84	APX6500	M25URS9PW1AN	527CSF2510	Mid Power

85	APX6500	M25URS9PW1AN	527CSF2511	Mid Power
86	APX6500	M25URS9PW1AN	527CSF2512	Mid Power
87	APX6500	M25URS9PW1AN	527CSF2513	Mid Power
88	APX6500	M25URS9PW1AN	527CSF2514	Mid Power
89	APX6500	M25URS9PW1AN	527CSF2515	Mid Power
90	APX6500	M25URS9PW1AN	527CSF2516	Mid Power
91	APX6500	M25URS9PW1AN	527CSF2517	Mid Power
92	APX6500	M25URS9PW1AN	527CSF2518	Mid Power
93	APX6500	M25URS9PW1AN	527CSF2519	Mid Power
94	APX6500	M25URS9PW1AN	527CSF2520	Mid Power
95	APX6500	M25URS9PW1AN	527CSF2521	Mid Power
96	APX6500	M25URS9PW1AN	527CSF2522	Mid Power
97	APX6500	M25URS9PW1AN	527CSF2523	Mid Power
98	APX6500	M25URS9PW1AN	527CSF2524	Mid Power
99	APX6500	M25URS9PW1AN	527CSF2525	Mid Power
100	APX6500	M25URS9PW1AN	527CSF2526	Mid Power
101	APX6500	M25URS9PW1AN	527CSF2527	Mid Power
102	APX6500	M25URS9PW1AN	527CSF2528	Mid Power
103	APX6500	M25URS9PW1AN	527CSF2529	Mid Power
104	APX6500	M25URS9PW1AN	527CSF2530	Mid Power
105	APX6500	M25URS9PW1AN	527CSF2531	Mid Power
106	APX6500	M25URS9PW1AN	527CSF2532	Mid Power
107	APX6500	M25URS9PW1AN	527CSF2533	Mid Power
108	APX6500	M25URS9PW1AN	527CSF2534	Mid Power
109	APX6500	M25URS9PW1AN	527CSF2535	Mid Power
110	APX6500	M25URS9PW1AN	527CSF2536	Mid Power
111	APX6500	M25URS9PW1AN	527CSF2537	Mid Power
112	APX6500	M25URS9PW1AN	527CSF2538	Mid Power
113	APX6500	M25URS9PW1AN	527CSF2539	Mid Power
114	APX6500	M25URS9PW1AN	527CSF2540	Mid Power
115	APX6500	M25URS9PW1AN	527CSF2541	Mid Power
116	APX6500	M25URS9PW1AN	527CSF2542	Mid Power
117	APX6500	M25URS9PW1AN	527CSF2543	Mid Power
118	APX6500	M25URS9PW1AN	527CSF2544	Mid Power
119	APX6500	M25URS9PW1AN	527CSF2545	Mid Power
120	APX6500	M25URS9PW1AN	527CSF2546	Mid Power
121	APX6500	M25URS9PW1AN	527CSF2547	Mid Power
122	APX6500	M25URS9PW1AN	527CSF2548	Mid Power
123	APX6500	M25URS9PW1AN	527CSF2549	Mid Power
124	APX6500	M25URS9PW1AN	527CSF2550	Mid Power
125	APX6500	M25URS9PW1AN	527CSF2551	Mid Power
126	APX6500	M25URS9PW1AN	527CSF2552	Mid Power
127	APX6500	M25URS9PW1AN	527CSF2553	Mid Power
128	APX6500	M25URS9PW1AN	527CSF2554	Mid Power

1	APX7500	L30URS9PW1AN	761CSF0163	Single Band
2	APX7500	L30URS9PW1AN	761CSF0164	Single Band

3	APX7500	L30URS9PW1AN	761CSF0165	Single Band
4	APX7500	L30URS9PW1AN	761CSF0166	Single Band
5	APX7500	L30URS9PW1AN	761CSF0167	Single Band
6	APX7500	L30URS9PW1AN	761CSF0168	Single Band

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
PROPOSED RESOLUTION NO. R17-109 - Approve utilizing National Joint Powers Alliance (NJPA) EZIQC Contract #FL02GC1-051716-JCL with Johnson-Laux Construction LLC of Orlando, FL for design and construction of modifications to the Utility Administration Building for a not to exceed price of $ 250,000, and authorize the City Manager to sign the proposal and Detailed Scope of Work.

EXPLANATION OF REQUEST:
Annual Renewal Period: June 6, 2017 - June 5, 2018

The Utility Administration Building requires modifications which include hardening the building for increased security and providing office/work space for the Meter Services Division. The Meter Services Division was located in the East Water Treatment Plant and the East Water Treatment Plant project utilized this area for other water plant requirements. The proposal includes relocating the Meter Services Division to the Administration Building with the other field services divisions and the Engineering Division. They are currently located in temporary trailers on-site.

Two main areas will be re-designed and re-constructed, schematic designs have been completed and the next step is full design and plans for permitting and construction, and the actual construction.

Job Order Contracting (JOC) is the preferred method to procure these services to streamline the process and complete the project within one year. JOC is an approved method of public procurement, and the contractor includes local workers to complete the project. The JOC is available through the National Joint Powers Alliance and EZIQC.

National Joint Powers Alliance (NJPA) is a national cooperative purchasing source solution, the City of Boynton Beach is a member. NJPA meets or exceeds our Procurement Rules. EZIQC is one of the cooperative purchasing methods, Gordian created ezIQC to make its industry-leading Job Order Contracting (JOC) Solutions easily available through cooperative purchasing. JOC is an indefinite delivery/indefinite quantity procurement process that helps facility and infrastructure owners complete a large number of repair, renovation and straightforward new construction projects with a single, competitively-bid contract. Unlike traditional bidding where each project is identified, designed and then put out to bid, ezIQC establishes competitively-bid prices up front and eliminates the need to bid each project separately. NJPA's procurement process satisfies the City's competitive bid requirements.

EZIQC is another tool in the procurement toolbox for expediting straightforward construction projects. Gordian’s expert field personnel guide owners through each step of the process, providing oversight to ensure cost and timing efficiencies are maximized right from the start.

The Project has a not to Exceed price of $250,000.

It is anticipated that the design for permitting will take approximately 4 weeks following execution of the work document. City Building Department permitting will be the next step, and upon permit issuance, construction will commence. The project will be constructed using the local labor force.

Surrounding municipalities that have utilized this process are: City of Boca Raton, City of Pompano Beach and City of Deerfield Beach.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
The Utility Administration Building requires security hardening to protect staff and equipment from potential natural and man-made disasters and intrusions. Ensuring the safety and operations of the Utility is paramount to protecting the life and safety of all customers and citizens of Boynton Beach.

The project will enhance security for the administration building, provide adequate work area for meter services and engineering and update a customer service area for developers and homeowners that are requesting utility construction services.

FISCAL IMPACT:
Funds are available in the Utility CIP 403 Fund for this project number WTR008.

ALTERNATIVES:
As an alternative, the City could procure the required services through a design, bid build procurement method which increases both cost and time for the project. The Meter Services Division is currently residing in a trailer, and has been since the construction. Construction for the Building could not start until the East Water Treatment Plant project was completed, schematics were completed during the last year. Moving quickly to complete this project will result in savings to the City.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CONTRACTS

VENDOR NAME: Johnson-Laux Construction LLC

START DATE:

END DATE:

CONTRACT VALUE:

MINORITY OWNED CONTRACTOR?: No

EXTENSION AVAILABLE?:

EXTENSION EXPLANATION:

ATTACHMENTS:

Type	Description
Resolution	Resolution Approving Contract with Johnson - Laux Construction for Modifications to Utility Administration Building
Attachment	Contract Johnson-Laux Const
Attachment	2017 Renewal
Attachment	Overview Johnson-Laux
Attachment	Estimated Not to Exceed Contract Amount
Agreement	Proposal

RESOLUTION NO. R17-

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, APPROVE UTILIZING NATIONAL JOINT POWERS ALLIANCE (NJPA) EZIQC CONTRACT #FL02GC1-051716-JCL WITH JOHNSON-LAUX CONSTRUCTION LLC., OF ORLANDO, FLORIDA FOR DESIGN AND CONSTRUCTION OF MODIFICATIONS TO THE UTILITY ADMINISTRATION BUILDING FOR A NOT TO EXCEED PRICE OF $250,000; AUTHORIZING THE CITY MANAGER TO SIGN A PROPOSAL AND DETAILED SCOPE OF WORK WITH JOHNSON-LAUX CONSTRUCTION LLC.; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, City staff has confirmed that NJPA's procurement process satisfies the City's competitive bid requirements; and

WHEREAS, upon recommendation of staff, it is the City's desire to utilize the National Joint Powers Alliance (NJPA) EZIQC Contract #FL02GC1-051716-JCL with Johnson-Laux Construction LLC of Orlando, FL for design and construction of modifications to the Utility Administration Building for a not to exceed price of $250,000.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption.

Section 2. The City Commission of the City of Boynton Beach, Florida, hereby approves utilizing the National Joint Powers Alliance (NJPA) EZIQC Contract #FL02GC1-051716-JCL with Johnson-Laux Construction LLC of Orlando, FL for design and construction of modifications to the Utility Administration Building for a not to

exceed price of $250,000.

Section 3. The City Manager is hereby authorized to sign the Proposal and Detailed Scope of Work with Johnson-Laux Construction LLC., a copy of which is attached hereto as Exhibit "A".

Section 4. That this Resolution shall become effective immediately.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

National Joint Powers Alliance®

INDEFINITE QUANTITY CONSTRUCTION AGREEMENT

IFB NUMBER: FL02GC1-051716-JLC

GEOGRAPHIC AREA: East Central Florida

This Agreement dated 06/06/2016, by and between the National Joint Powers Alliance, hereinafter referred to as NJPA and Johnson-Laux Construction, LLC at the following address 8100 Chancellor Drive, Suite 165, Orlando, FL 32809 hereinafter referred to as the CONTRACTOR.

WITNESSETH: NJPA and CONTRACTOR for the consideration hereafter agree as follows:

ARTICLE 1. CONTRACT DOCUMENTS

A. Contract Documents: This Agreement; the IFB Documents; (Book 1 - Project Information, Instructions to Bidders and Execution Documents; Book 2 - IQCC Standard Terms and Conditions and General Conditions; Book 3 - Construction Task Catalog (CTC), Book 4 - Technical Specifications) and Addenda thereto, the Bid Deposit, all payment and performance bonds (if any), material and workmanship bonds (if any); wage rate decisions and certified payroll records (if any); Notice of Award; all modifications issued thereto, including Supplemental Work Orders/Change Orders and written interpretations and all Purchase Orders and accompanying documents (Requests for Proposals, Detailed Scopes of Work, Work Order Proposals, etc.) issued hereunder.

B. The terms and conditions of a Purchase Order issued by an NJPA Member in connection with any Work Order, including supplemental technical specifications referenced therein, shall govern.

C. The Contractor shall, within two (2) business days of receipt of a Purchase Order from an NJPA Member, provide notification to NJPA or their designated representative of each Purchase Order by forwarding a copy of the Purchase Order via email to PO@EZIQC.com or via facsimile to (864) 233-9100.

D. The Contractor shall, within two (2) business days of sending an Invoice to an NJPA Member, provide notification to NJPA or their designated representative of each Invoice by forwarding a copy of the Invoice via email to Invoice@EZIQC.com or via facsimile to (864) 233-9100.

ARTICLE 2. SCOPE OF WORK

A. The Contractor shall provide the services required to develop each Work Order in accordance with the procedures for developing Work Orders set forth in the IQCC Standard Terms and Conditions and the Contract Documents.

B. Each Work Order developed in accordance with this Agreement will be issued in connection with a Purchase Order by an individual NJPA Member. The Purchase Order will reference the Work Order and require the Contractor to perform the Detailed Scope of Work within the Work Order Completion Time for the Work Order Price.

C. It is anticipated that the Contractor will perform Work primarily in the Geographic Area set forth above. However, the parties may agree that the Contractor can perform Work in a different Geographic Area at its current Adjustment Factors.

ARTICLE 3. THE AGREEMENT PRICE

A. This Agreement is an indefinite-quantity contract for construction work and services. The Estimated Annual Value of this Agreement is $2,000,000. This is only an estimate and may increase or decrease at the discretion of NJPA.

B. The Contractor shall perform any or all Tasks in the Construction Task Catalog for the unit price appearing therein multiplied by the following Adjustment Factors:

C. The Contractor shall perform any or all Tasks in the Construction Task Catalog for the unit price appearing therein multiplied by the following Adjustment Factors **TO BE ENTERED BY NJPA**:

a. Normal Working Hours: Work performed from 7:00am until 4:00pm Monday to Friday, except holidays. Contractor shall perform Tasks during Normal Working Hours for the Unit Price set forth in the CTC multiplied by the Adjustment Factor of:

1.1784
(Specify to four (4) decimal places)

b. Other Than Normal Working Hours: Work performed from 4:00pm to 7:00am Monday to Friday, and any time Saturday, Sunday and Holidays. Contractor shall perform Tasks during Other Than Normal Working Hours for the Unit Price set forth in the CTC multiplied by the Adjustment Factor of:

1.1892
(Specify to four (4) decimal places)

c. Non Pre-priced Adjustment Factor: To be applied to Work deemed not to be included in the CTC but within the general scope of the work:

1.2432
(Specify to four (4) decimal places)

ARTICLE 4. TERM OF THE AGREEMENT

A. The base term shall be one year with three one year options. The total term of the Contract shall not exceed three years (unless extended by NJPA per the Terms of this Contract). The Contractor may withdraw from the Agreement on each anniversary of the award, provided that the Contractor gives 60 Days written notice of its intent to withdraw. NJPA may, for any reason, terminate this Agreement at any time.

B. All Purchase Orders issued during a term of this Agreement shall be valid and in effect notwithstanding that the Detailed Scope of Work may be performed, payments may be made, and the guarantee period may continue, after such term has expired. All terms and conditions of the Agreement apply to each Purchase Order.

ARTICLE 5. SOFTWARE LICENSING

A. NJPA selected The Gordian Group's (Gordian) software, data and services (IQCC System) for their IQCC program. The system includes Gordian's proprietary ezIQC, eGordian and Bid Safe IQCC applications (IQCC Applications) and construction cost data (Construction Task Catalog), which shall be used by the Contractor to prepare and submit Price Proposals, subcontractor lists, and other requirements specified by NJPA and NJPA Members. The Contractor's use, in whole or in part, of Gordian's IQCC Applications and Construction Task Catalog and other proprietary materials provided by Gordian for any purpose other than to execute work under this Contract for NJPA and NJPA Members is strictly prohibited unless otherwise stated in writing by Gordian. The Contractor hereby agrees to abide by the terms of the following IQCC System License:

ARTICLE 6. IQCC SYSTEM LICENSE

A. Gordian hereby grants to the Contractor, and the Contractor hereby accepts from Gordian for the term of this Contract or Gordian's contract with NJPA, whichever is shorter, a non-exclusive right, privilege, and license to Gordian's proprietary IQCC System and related proprietary materials (collectively referred to as "Proprietary Information") to be used for the sole purpose of executing Contractor's responsibilities to NJPA and NJPA Members under this Contract ("Limited Purpose"). The Contractor hereby agrees that Proprietary Information shall include, but is not limited to, Gordian's IQCC Applications and support documentation, Construction Task Catalog, training materials, marketing materials and any other proprietary materials provided to Contractor by Gordian. In the event this Contract expires or terminates as provided herein, or the Gordian's contract with NJPA expires or terminates, this IQCC System License shall terminate and the Contractor shall return all Proprietary Information in its possession to Gordian.

B. Contractor acknowledges that Gordian shall retain exclusive ownership of all proprietary rights to the Proprietary Information, including all U.S. and international intellectual property and other rights such as patents, trademarks, copyrights and trade secrets. Contractor shall have no right or interest in any portion of the Proprietary Information except the right to use the Proprietary Information for the Limited Purpose set forth herein. Except in furtherance of the Limited Purpose, Contractor shall not distribute, disclose, copy, reproduce, display, publish, transmit, assign, sublicense, transfer, provide access to, use or sell, directly or indirectly (including in electronic form), any portion of the Proprietary Information.

C. Contractor acknowledges and agrees to respect the copyrights, trademarks, trade secrets, and other proprietary rights of Gordian in the Proprietary Information during and after the term of this Agreement, and shall at all times maintain complete confidentiality with regard to the Proprietary Information provided to Contractor, subject to federal, state and local laws related to public disclosure. Contractor further acknowledges that a breach of any of the terms of this Agreement by Contractor will result in irreparable harm to Gordian for which monetary damages would be an inadequate remedy, and Gordian shall be entitled to injunctive relief (without the necessity of posting a bond) as well as all other monetary remedies available at law or in equity. In the event that it becomes necessary for either party to this IQCC System License to enforce the provisions of this Agreement or to obtain redress for the breach or violation of any of its provisions, whether by litigation, arbitration or other proceedings, the prevailing party shall be entitled to recover from the other party all costs and expenses associated with such proceedings, including reasonable attorney's fees.

D. In the event of a conflict in terms and conditions between this IQCC System License and any other terms and conditions of this Contract or any Work Order, Purchase Order or similar purchasing document (Purchase Order) issued by NJPA or an NJPA Member, this IQCC System License shall take precedence.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the day and year first above written.

By:

National Joint Powers Alliance

Authorized Signature Jeremy Schwartz

Contractor

Authorized Signature

Kevin Johnson, Vice President

Print Name

Contract Number: FL02GCI-051716-JLC **(assigned by NJPA)**

ANNUAL RENEWAL AND MODIFICATION OF AGREEMENT

made by and between

Johnson-Laux Construction, LLC
8100 Chancellor Drive, Suite 165
Orlando, FL 32809

and

National Joint Powers Alliance® (NJPA)
202 12th Street NE
PO Box 219
Staples, MN 56479
Phone: (218) 894-1930 or (888) 894-1930

Whereas: "Vendor" and "NJPA" have entered into 1) an "Acceptance of Bid and IFB **FL02GC1-051716-JLC**" with an effective date of June 6, 2016, a maturity date of June 5, 2020, and which are subject to annual renewals at the option of both parties.

MODIFICATION: FIRST RENEWAL OPTION PERIOD

Pursuant to the agreement between the parties, the following are the Adjustment Factors for the next option period:

Base Year

	Date	Index
1	May 2015	10028.15
2	June 2015	10038.78
3	July 2015	10037.36
4	August 2015	10038.79
5	September 2015	10065.09
6	October 2015	10128.32
7	November 2015	10104.69
8	December 2015	10135.00
9	January 2016	10132.55
10	February 2016	10181.92
11	March 2016	10242.09
12	April 2016	10280.39

Base Average
10117.7608

Option Year

	Date	Index
1	May 2016	10315.44
2	June 2016	10337.05
3	July 2016	10379.26
4	August 2016	10385.65
5	September 2016	10403.43
6	October 2016	10434.56
7	November 2016	10442.61
8	December 2016	10530.46
9	January 2017	10541.51
10	February 2017	10281.93
11	March 2017	10277.62
12	April 2017	10678.15

Option Average
10417.3058

Price Adjustment: **First Year Index Average** / **Base Year Index Average** = 10417.3058 / 10117.7608 = **1.0296**

	AWARD MULTIPLIER	x	PRICE ADJUSTMENT	=	OPTION MULTIPLIER
# FL02GC1-051716-JLC					
Non-Prepriced	1.2432		1.0000		1.2432
Normal Working Hours	1.1784		1.0296		1.2133
Other Than Normal Working Hours	1.1892		1.0296		1.2244

Now therefore:

"Vendor" and "NJPA" hereby desire and agree to extend and renew the above defined contracts and with the above identified modifications for the period of June 6, 2017 through June 5, 2018.

National Joint Powers Alliance® (NJPA)

By: _____, Its: NJPA Director of Cooperative Contracts and Procurement/CPO

Name printed or typed: Jeremy Schwartz

Date: 4-18-17

Johnson-Laux Construction, LLC - #FL02GC1-051716-JLC

By: _____, Its: Vice President

Name printed or typed: Kevin Johnson

Date: 4/18/2017

If you do not want to extend contract, please sign below and return this agreement.
Discontinue: We desire to discontinue the contract.

Signature: _____, Date: _____

JOHNSON LAUX CONSTRUCTION
WHEN EXCEEDING EXPECTATIONS IS A REQUIREMENT.

Overview

Contract Documentation

IFB Books

Marketing Materials

NJPA Contact Information

HOW TO PURCHASE
Our step-by-step guide

Vendor Contact Info
Kevin Johnson, Vice President
Direct Phone: 407-770-2180
kevin@johnson-laux.com

Mike Carroll, Project Estimator
Direct Phone: 407-770-2180
mikec@johnson-laux.com

Johnson-Laux Construction, LLC

NJPA AWARDED CONTRACT

GORDIAN

Contract ID: #FL02GC1-051716-JLC
Category: General Construction Contracts
Sub Category: General
Region: East Central **State:** FL **Country:** USA

Corp. Office:
8100 Chancellor Drive, Suite 165
Orlando, FL 32809

Johnson-Laux Construction is a full service general contractor who relies on repeat business for its success. Our company provides these exceptional services through our NJPA eziQC continuing contracts in the states of Florida, Tennessee, Minnesota, Georgia and South Carolina. Johnson-Laux focuses its efforts on meeting the needs of our clients. From Design-Build projects to fast-track renovations, Johnson-Laux provides an experienced team on each project to ensure our clients' expectations are met or exceeded. The owners of Johnson-Laux have set the standard of treating each client like they are the only client. All team members adhere to this standard, enabling Johnson-Laux Construction to provide exceptional service while maintaining both the budget and time restraints of any project.

JOHNSON LAUX CONSTRUCTION

8100 Chancellor Drive
Suite 165
Orlando, FL 32809
407 770-2180

Budget

10/20/17

Budget
Land; with Notes (separate reports)
Job# 10054 to 10054

Cost Code	Material	Labor	Equipment	Subcontract	Other	Total
10054 Boynton Utilities Dept Renovat						
1000.000 General Requirements					36,443.00	36,443.00
2500.000 Demolition				5,000.00		5,000.00
6100.000 Carpentry Material				350.00		350.00
Materials for communication board						
6500.000 Cabinets/Millwork				45,000.00		45,000.00
Estimate for laminated shelves, cabinets, and countertops.						
8000.000 Doors/Hardware				9,500.00		9,500.00
New doors, frames, and hardware						
8100.000 Windows				12,900.00		12,900.00
Interior windows in reception area, ballistic protection						
9000.000 Framing/Drywall				11,825.00		11,825.00
Metal framing and drywall						
9300.000 Acoustical Ceilings				3,550.00		3,550.00
Acoustical ceiling tie-ins and repairs						
9500.000 Painting				7,625.00		7,625.00
Interior painting						
9200.000 Flooring				16,250.00		16,250.00
Carpet Tiles, VCT, Ceramic Tile Repairs, Vinyl Wall Base						
10575.000 Chair Rail				550.00		550.00
Wood chair rail in corridor to match existing						
10572.000 Wall Guards				5,500.00		5,500.00
Ballistic protection in reception area						
12000.000 Furnishings				10,800.00		10,800.00
Installation only of owner supplied furnishings/work stations						

Continued...

Cost Code	Material	Labor	Equipment	Subcontract	Other	Total
15100.000 HVAC				5,000.00		5,000.00
Allowance						
15200.000 Fire Protection				3,800.00		3,800.00
Removal of Haylon System						
16000.000 Electrical				15,900.00		15,900.00
Lighting Fixtures, electrical outlets and switches.						
16050.000 Communications				3,500.00		3,500.00
Voice and Data drops						
16800.000 Access Control				3,800.00		3,800.00
CCTV and door access control						
1901.000 Liability Insurance					1,264.00	1,264.00
1903.000 Bond					3,515.00	3,515.00
1206.000 Permits					5,588.00	5,588.00
17000.000 O H & P					23,074.00	23,074.00
Grand Totals:				**160,850.00**	**69,884.00**	**230,734.00**

Notes:

Work Order Signature Document

NJPA EZIQC Contract No.: FL02GC1-051716-JLC

[X] **New Work Order** [ ] **Modify an Existing Work Order**

Work Order Number.:	052357.00	Work Order Date:	09/20/2017
Work Order Title:	Boynton Beach Utilities Office Remodel		
Owner Name:	City of Boynton Beach	Contractor Name:	Johnson-Laux Construction, LLC
Contact:	Barb Conboy	Contact:	Richard Reinhart
Phone:	5617426406	Phone:	

Work to be Performed

Work to be performed as per the Final Detailed Scope of Work Attached and as per the terms and conditions of NJPA EZIQC Contract No FL02GC1-051716-JLC.

Brief Work Order Description:

Boynton Beach Utilities Department Remodel

Time of Performance Estimated Start Date:
Estimated Completetion Date:

Liquidated Damages Will apply: [ ] Will not apply: [X]

Work Order Firm Fixed Price: $15,560.57

Owner Purchase Order Number:

Approvals

Owner Date

Contractor Date

Detailed Scope of Work

To: Richard Reinhart
Johnson-Laux Construction, LLC
8100 Chancellor Drive, Suite 165
Orlando, FL 32809
No Data Input

From: Barb Conboy
City of Boynton Beach
710 N Federal Hwy
Boynton Beach, FL 33435
5617426406

Date Printed: September 20, 2017

Work Order Number: 052357.00

Work Order Title: Boynton Beach Utilities Office Remodel

Brief Scope: Boynton Beach Utilities Department Remodel

☐ **Preliminary** ☐ **Revised** ☒ **Final**

The following items detail the scope of work as discussed at the site. All requirements necessary to accomplish the items set forth below shall be considered part of this scope of work.

Design for Utilities Building remodel based on Joint Scope meeting

Subject to the terms and conditions of JOC Contract **FL02GC1-051716-JLC**.

Contractor _____ Date _____

Owner _____ Date _____

Contractor's Price Proposal - Summary

Date: September 20, 2017

Re:

IQC Master Contract #:	FL02GC1-051716-JLC
Work Order #:	052357.00
Owner PO #:	
Title:	Boynton Beach Utilities Office Remodel
Contractor:	Johnson-Laux Construction, LLC
Proposal Value:	$15,560.57

No Category Input	**$15,560.57**

Proposal Total	**$15,560.57**

Thisl total represents the correct total for the proposal. Any discrepancy between line totals, sub-totals and the proposal total is due to rounding.

Contractor's Price Proposal - Detail

Date: September 20, 2017

Re:

IQC Master Contract #:	FL02GC1-051716-JLC
Work Order #:	052357.00
Owner PO #:	
Title:	Boynton Beach Utilities Office Remodel
Contractor:	Johnson-Laux Construction, LLC
Proposal Value:	$15,560.57

	Sect.	Item	Mod.	UOM	Description	Line Total
Labor	Equip.	Material	(Excludes)			
No Category Input						
1	01 22 20	00 0048		HR	Investigating Engineer Or Specialty ConsultantFor special investigatory engineering requirements or other miscellaneous professional services.	$8,735.76
				Installation	Quantity 90.00 x Unit Price 80.00 x Factor 1.2133 = Total 8,735.76	
					A&E design services for City of Boynton Beach Utility Department Remodel	
2	01 22 20	00 0049		HR	Investigating Senior Engineer Or Specialty ConsultantFor special investigatory engineering requirements or other miscellaneous professional services.	$6,824.81
				Installation	Quantity 45.00 x Unit Price 125.00 x Factor 1.2133 = Total 6,824.81	
					A&E design services for City of Boynton Beach Utility Department Remodel	

Subtotal for No Category Input **$15,560.57**

Proposal Total **$15,560.57**

This total represents the correct total for the proposal. Any discrepancy between line totals, sub-totals and the proposal total is due to rounding.

Subcontractor Listing

Date: September 20, 2017

Re:

IQC Master Contract #:	FL02GC1-051716-JLC
Work Order #:	052357.00
Owner PO #:	
Title:	Boynton Beach Utilities Office Remodel
Contractor:	Johnson-Laux Construction, LLC
Proposal Value:	$15,560.57

Name of Contractor	Duties	Amount	%
No Subcontractors have been selected for this Work Order		$0.00	0.00

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-110 - Approve and authorize City Manager to sign a five (5) year renewal agreement with Sensus USA, Inc. (Sensus) for Advanced Metering Infrastructure (AMI) in order to maintain the standardized meter reading equipment and maintain the meter reading efficiency that has been achieved. Estimated five (5) year cost is $415,000.

EXPLANATION OF REQUEST:
On May 1, 2012 the City Commission approved a negotiated agreement that provided for transition to AMI and operation through May 2017, (5 years). The agreement included warranty replacement, staff assistance for equipment change out and new system implementation.

The AMI transition obtained substantial completion in the Summer of 2014. The Utility has been using AMI fully across the service area since 2014.

Utilities is requesting approval to execute a renewal term for an additional 5 years for Advanced Metering Infrastructure with Sensus USA, Inc. The system is a hosted system that Sensus maintains. The agreement provides for technical support, equipment warranties, and maintains efficiency standards in reading.

The agreement includes pricing structures/option for implementation of Sensus Analytics which will replace the current software used to generate reports. The new system will also provide capabilities to add a Customer Portal. Staff is recommending approval to authorize the City Manager to sign an amended agreement for the new software package when it becomes available from Sensus USA, Inc.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
The existing AMI system ensures timely reading of meters, which in turn allows for timely billing of services to realize revenue for the Utility. The City made the decision in April and May of 2012 to enter the initial agreement (5 year) to maximize existing systems, warranty repairs, and service improvement demands. In consideration of all conditions and components of a comprehensive metering technology system, the City has made a long-term commitment in this process.

FISCAL IMPACT: Budgeted
This is a five year renewal agreement for hosting services, and existing database management software or new database management software. The Utility will migrate to the new software when available from Sensus.

Year 1 $81,065.52 – w/Analytics includes one time set up of Sensus Analytics
Year 2 $76,287.49 w/Analytics
Year 3 $78,576.11 w/Analytics
Year 4 $85,674.61 w/Analytics
Year 5 $93,128.31 w/Analytics
Total $414,732.04 w/Analytics

Funds were included in the approved Utilities FY17/18 operating budget for meter services under account 401-2814-536-46-91.

ALTERNATIVES:
Not to proceed with the attached Agreement with Sensus USA. This is not recommended since the system would have to be replaced with another system in order to maintain the efficiency of reading meters on a timely basis to protect Utility revenue. A replacement system would be a multi-year undertaking.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Resolution	Resolution approving Agreement with Sensus USA Inc for mataining the meter reading equipment
🗋	Agreement	Sensus Agreement

RESOLUTION NO. R17-

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, APPROVING A FIVE YEAR AGREEMENT BETWEEN THE CITY OF BOYNTON BEACH AND SENSUS USA, INC., FOR ADVANCED METERING INFRASTRUCTURE (AMI) TO MAINTAIN THE STANDARDIZED METER READING EQUIPMENT; AUTHORIZING THE CITY MANAGER TO SIGN THE AGREEMENT; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, on May 1, 2012 the City Commission approved a negotiated agreement that provided for transition to AMI and operation through May 2017; and

WHEREAS, the Utilities Department is requesting approval to execute a renewal term for an additional five (5) years for Advanced Metering Infrastructure with Sensus USA, Inc.,; and

WHEREAS, upon recommendation of staff, the City Commission has determined that it is in the best interest of the residents and citizens of the City of Boynton Beach to approve the five year Agreement with Sensus USA, Inc., to maintain the standardized meter reading equipment.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct.

Section 2. The City Commission of the City of Boynton Beach, Florida, hereby approves the five year Agreement between the City of Boynton Beach and Sensus USA, Inc., to maintain the standardized meter reading equipment, a copy of the Agreement is attached hereto as Exhibit “A”.

Section 3. The City Manager is authorized to execute the five year Agreement

with Sensus USA, Inc., on behalf of the City of Boynton Beach.

Section 4. That this Resolution shall become effective immediately.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

Amended and Restated Advanced Metering Infrastructure (AMI) Agreement

between

City of Boynton Beach
("Customer")

and
Sensus USA Inc.
("Sensus")

WHEREAS, Customer and Sensus previously entered into an Advance Metering Infrastructure (AMI) Base Terms Agreement dated May 21, 2012 (the "Previous Agreement"); and

WHEREAS, the Previous Agreement ended on May 21, 2017; and

WHEREAS, the parties wish to ratify the continuation of the Previous Agreement through the Effective Date of this Agreement; and

WHEREAS, the parties wish to amend and restate the Previous Agreement by entering into this Amended and Restated AMI Agreement (the "Agreement"), and the terms and conditions of this Agreement shall control the relationship between the parties.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives as of the day and year written below. The date of the last party to sign is the "Effective Date."

This Agreement shall commence on the Effective Date which is the date of the last signature below and continue for five (5) Years ("Initial Term"). At the end of the Initial Term, this Agreement shall automatically renew for an additional term of 5 years ("Renewal Term"). The "Term" shall refer to both the Initial Term and the Renewal Term.

Sensus USA Inc.
By: _____
Name: _____
Title: _____
Date: _____

Customer: City of Boynton Beach
By: _____
Name: _____
Title: _____
Date: _____

Pricing remains firm until 4/30/2018 ("Trigger Date")

All purchase orders shall be sent to the address provided by Sensus. Sensus may change this address upon notice to Customer.

Contents of this Agreement:
AMI Agreement
- Exhibit A Software
- Exhibit B Technical Support
- Exhibit C Pricing
- Exhibit D Statement of Work
- Exhibit E Product Warranties
- Exhibit F Propagation Analysis
- Exhibit G through I are intentionally omitted

Customer order acknowledgements shall be sent to: [insert email address or fax number]

_____
_____

Sensus shall send all invoices to: [insert mailing address, email address, fax number, as applicable]

_____
_____

1. **Equipment.**
   A. **Purchase of Equipment.**
      i. **Equipment.** Customer shall purchase from Sensus the quantities and types of Field Devices, RF Field Equipment, and other goods (collectively, "Equipment") set forth in Exhibit C at the prices set forth in Exhibit C.
      ii. **Delivery.** Customer shall pay for delivery of the Equipment from Sensus' or Sensus' contracted manufacturers' factory to Customer's warehouse. All Equipment is shipped Ex Works shipping point, prepay freight and add. Title to, and property in, the Equipment shall pass to Customer upon shipment. Risk of loss of the Equipment shall also pass to Customer upon shipment.
      iii. **Project Number.** Customer shall include the Sensus project number on all Purchase Orders. Orders submitted to Sensus may not be canceled or amended, or deliveries deferred, by Customer except with Sensus' prior written consent.
      iv. **Warranty.** The Equipment purchased directly from Sensus is warranted as set forth in this subsection (iv).
         (a) Sensus warrants its water metering equipment and SmartPoint Modules according to the terms and conditions (including all limitations and exclusions) in the Sensus G-500 warranty, attached hereto as Exhibit E. To the extent the terms of the G-500 Warranty conflict with the terms in this Agreement, the terms of this Agreement shall control.
         (b) Sensus warrants all other goods, software, and services, except for the water metering equipment, according to the terms and conditions (including all limitations and exclusions) in the Sensus Limited Warranty, attached hereto as Exhibit E. To the extent the terms of the General Limited Warranty conflict with the terms in this Agreement, the terms of this Agreement shall control.
         (c) Extended Warranty of RF Field Equipment. Notwithstanding the foregoing, for each year that Customer pays for an extended basestation warranty, Sensus shall extend the warranty period of RF Field Equipment by twelve (12) months (the "Extended Warranty"). Following the expiration of the standard warranty period described in the General Limited Warranty, Customer shall pay for the Extended Warranty each year on an annual basis. If Customer ceases to purchase the Extended Warranty upon expiration of the previous warranty term, Customer shall not be entitled to purchase the Extended Warranty again. All of the limitations and exclusions of the General Limited Warranty shall apply during any extended warranty term. For clarity, batteries, labor, and other parts or services not provided by the General Limited Warranty are not covered by the Extended Warranty and such expenses shall be Customer's cost and responsibility.
   B. **Limitations and Exclusions. THE WARRANTIES IN THIS SECTION 1, THE G-500 WARRANTY, AND THE GENERAL LIMITED WARRANTY ARE THE ONLY WARRANTIES GIVEN WITH RESPECT TO THE GOODS, SOFTWARE LICENSES, AND SERVICES SOLD OR OTHERWISE PROVIDED BY SENSUS. SENSUS EXPRESSLY DISCLAIMS ANY AND ALL OTHER REPRESENTATIONS, WARRANTIES AND/OR CONDITIONS, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE, REGARDING ANY MATTER IN CONNECTION WITH THIS AGREEMENT, INCLUDING WITHOUT LIMITATION, WARRANTIES AS TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, NON-INFRINGEMENT AND TITLE.**
   C. **Ongoing Maintenance of Equipment.**
      i. **Field Devices.** Customer shall be responsible for the ongoing maintenance of the Field Devices. Customer shall provide the field services labor to visit a problem Field Device and perform diagnostics and repair or replacement. For electricity products, Customer shall first test and confirm that each socket to which a Field Device will be/is connected is in safe operating condition, is fully functional, is not corroded, does not contain improperly installed jaws or other deficiencies, complies with ANSI standards, and is not "hot", damaged, or otherwise in need of maintenance or repair.
      ii. **RF Field Equipment.** Except as otherwise provided herein, Customer shall be responsible for the ongoing maintenance of the RF Field Equipment. Customer shall be responsible for the ongoing monthly operations and expenses related to the RF Field Equipment, including any leasing costs, construction costs, taxes and costs of WAN Backhaul. Customer shall pay for electric power to the RF Field Equipment.
2. **Services.**
   A. **Installation of Equipment.**
      i. **Generally.** The parties shall have their respective obligations for the deployment and operation of the AMI System as set forth in the Statement of Work attached as Exhibit D. The Statement of Work does not apply if Customer is purchasing Equipment from Sensus' authorized distributor.
      ii. **Field Devices.** Customer shall install the Field Devices at its End Users' premises, or other location as applicable. For electricity products, Customer shall first test and confirm that each socket to which a Network Device will be connected is in safe operating condition, is fully functional and is not "hot", damaged or otherwise in need of maintenance or repair.
      iii. **RF Field Equipment.** Sensus shall perform the propagation analysis in the Service Territory to determine where to locate the RF Field Equipment. For the prices set forth in Exhibit C, Sensus, or its subcontractor, shall perform Sensus' obligations in Exhibit D with regards to the RF Field Equipment installation. Customer shall perform Customer's obligations in Exhibit D with regards to the RF Field Equipment installation. The propagation analysis is attached hereto as Exhibit F.
   B. **Software Implementation.** Sensus shall install and configure the Software and shall install the Software on the Server Hardware.
   C. **IT Systems Integration Services.** Integration of the Software into Customer's new or existing internal IT systems is not included in this Agreement. Any integration work shall be subject to a separate agreement which describes the scope and pricing for such work.
   D. **Technical Support.** Sensus shall provide Customer the technical support set forth in Exhibit B.
   E. **Project Management.** Project management of the AMI System is not included in this Agreement. Any project management shall be subject to a separate agreement which describes the scope and pricing for such work.
   F. **Training.** Training on the use of the AMI System is not included in this Agreement. Any training shall be subject to a separate agreement which describes the scope and pricing for such work.
3. **Software.**
   A. **Software as a Service (SaaS).** Sensus shall provide Customer with Software as a Service, as defined in Exhibit A, only so long as Customer is current in its payments for such services.
   B. **UCITA.** To the maximum extent permitted by law, the Parties agree that the Uniform Computer Information Transaction Act as enacted by any state shall not apply, in whole or in part, to this Agreement.
4. **Spectrum**
   A. **Spectrum Lease.** The parties previously entered into a spectrum manager lease on May 21, 2012 (the "Spectrum Lease"), which is hereby specifically incorporated by reference. To the extent the Spectrum Lease may be interpreted to have expired in May 2017, the parties hereby ratify the extension of the Spectrum Lease to continue unchanged and unaffected from May 21, 2012 through the end of the Term of this Agreement, subject to the terms and conditions of the Spectrum Lease.

5. **General Terms and Conditions.**

A. **Payment.** All payment and pricing is subject to the terms in Exhibit C.

B. **Limitation of Liability.**

i. Sensus' aggregate liability in any and all causes of action arising under, out of or in relation to this Agreement, its negotiation, performance, breach or termination (collectively "Causes of Action") shall not exceed the greater of; (a) the total amount paid by Customer directly to Sensus under this Agreement; or (b) ten thousand US dollars (USD 10,000.00). This is so whether the Causes of Action are in tort, including, without limitation, negligence or strict liability, in contract, under statute or otherwise. As separate and independent limitations on liability, Sensus' liability shall be limited to direct damages. Sensus shall not be liable for; (i) any indirect, incidental, special or consequential damages; nor (ii) any revenue or profits lost by Customer or its Affiliates from any End User(s), irrespective whether such lost revenue or profits is categorized as direct damages or otherwise; nor (iii) any In/Out Costs; nor (iv) manual meter read costs and expenses; nor (v) claims made by a third party; nor (vi) damages arising from maincase or bottom plate breakage caused by freezing temperatures, water hammer conditions, or excessive water pressure. The limitations on liability set forth in this Agreement are fundamental inducements to Sensus entering into this Agreement. They apply unconditionally and in all respects. They are to be interpreted broadly so as to give Sensus the maximum protection permitted under law.

ii. To the maximum extent permitted by law, no Cause of Action may be instituted by Customer against Sensus more than TWELVE (12) MONTHS after the Cause of Action first arose. In the calculation of any damages in any Cause of Action, no damages incurred more than TWELVE (12) MONTHS prior to the filing of the Cause of Action shall be recoverable.

C. **Termination.** Either party may terminate this Agreement earlier if the other party commits a material breach of this Agreement and such material breach is not cured within forty-five (45) days of written notice by the other party. Upon any expiration or termination of this Agreement, Sensus' and Customer's obligations hereunder shall cease and the software as a service and Spectrum Lease shall immediately cease.

D. **Force Majeure.** If either party becomes unable, either wholly or in part, by an event of Force Majeure, to fulfill its obligations under this Agreement, the obligations affected by the event of Force Majeure will be suspended during the continuance of that inability. The party affected by the force majeure will take reasonable steps to mitigate the Force Majeure.

E. **Intellectual Property.** No Intellectual Property is assigned to Customer hereunder. Sensus shall own or continue to own all Intellectual Property used, created, and/or derived in the course of performing this Agreement. To the extent, if any, that any ownership interest in and to such Intellectual Property does not automatically vest in Sensus by virtue of this Agreement or otherwise, and instead vests in Customer, Customer agrees to grant and assign and hereby does grant and assign to Sensus all right, title, and interest that Customer may have in and to such Intellectual Property. Customer agrees not to reverse engineer any Equipment purchased or provided hereunder.

F. **Confidentiality.** Both parties shall (and shall cause their employees and contractors to) keep all Confidential Information strictly confidential and shall not disclose it to any third party, except to the extent reasonably required to perform and enforce this Agreement or as required under applicable law, court order or regulation. The Confidential Information may be transmitted orally, in writing, electronically or otherwise observed by either party. Notwithstanding the foregoing, "Confidential Information" shall not include; (i) any information that is in the public domain other than due to Recipient's breach of this Agreement; (ii) any information in the possession of the Recipient without restriction prior to disclosure by the Discloser; or (iii) any information independently developed by the Recipient without reliance on the information disclosed hereunder by the Discloser. "Discloser" means either party that discloses Confidential Information, and "Recipient" means either party that receives it. Notwithstanding the foregoing, Customer shall be allowed to release any information that is a Public Record under Florida Law.

G. **Compliance with Laws.** Customer shall comply with all applicable country, federal, state, and local laws and regulations, as set forth at the time of acceptance and as may be amended, changed, or supplemented. Customer shall not take any action, or permit the taking of any action by a third party, which may render Sensus liable for a violation of applicable laws.

i. **Export Control Laws.** Customer shall; (i) comply with all applicable U.S. and local laws and regulations governing the use, export, import, re-export, and transfer of products, technology, and services; and (ii) obtain all required authorizations, permits, and licenses. Customer shall immediately notify Sensus, and immediately cease all activities with regards to the applicable transaction, if the Customer knows or has a reasonable suspicion that the equipment, software, or services provided hereunder may be directed to countries in violation of any export control laws. By ordering equipment, software or services, Customer certifies that it is not on any U.S. government export exclusion list.

ii. **Anti-Corruption Laws.** Customer shall comply with the United States Foreign Corrupt Practices Act (FCPA), 15 U.S.C. §§ 78dd-1, et seq.; laws and regulations implementing the OECD's Convention on Combating Bribery of Foreign Public Officials in International Business Transactions; the U.N. Convention Against Corruption; the Inter-American Convention Against Corruption; and any other applicable laws and regulations relating to anti-corruption in the Customer's county or any country where performance of this Agreement, or delivery or use of equipment, software or services will occur.

H. **Non-Waiver of Rights.** A waiver by either party of any breach of this Agreement or the failure or delay of either party to enforce any of the articles or other provisions of this Agreement will not in any way affect, limit or waive that party's right to enforce and compel strict compliance with the same or other articles or provisions.

I. **Assignment and Sub-contracting.** Either party may assign, transfer or delegate this Agreement without requiring the other party's consent; (i) to an Affiliate; (ii) as part of a merger; or (iii) to a purchaser of all or substantially all of its assets. Apart from the foregoing, neither party may assign, transfer or delegate this Agreement without the prior written consent of the other, which consent shall not be unreasonably withheld. Furthermore, Customer acknowledges Sensus may use subcontractors to perform RF Field Equipment installation, the systems integration work (if applicable), or project management (if applicable), without requiring Customer's consent.

J. **Amendments.** No alteration, amendment, or other modification shall be binding unless in writing and signed by both Customer and by a vice president (or higher) of Sensus.

K. **Governing Law and Dispute Resolution.** This Agreement shall be governed by, construed and enforced in accordance with the laws of the State of Florida. Any and all disputes arising under, out of, or in relation to this Agreement, its negotiation, performance or termination ("Disputes") shall first be resolved by the Parties attempting mediation in Florida. If the Dispute is not resolved within sixty (60) days of the commencement of the mediation, it shall be litigated in the state or federal courts located in Florida. TO THE MAXIMUM EXTENT PERMITTED BY LAW, THE PARTIES AGREE TO A BENCH TRIAL AND THAT THERE SHALL BE NO JURY IN ANY DISPUTES.

L. **Survival.** The provisions of this Agreement that are applicable to circumstances arising after its termination or expiration shall survive such termination or expiration.

M. **Severability.** In the event any provision of this Agreement is held to be void, unlawful or otherwise unenforceable, that provision will be severed from the remainder of the Agreement and replaced automatically by a provision containing terms as nearly like the void, unlawful, or unenforceable provision as possible; and the Agreement, as so modified, will continue to be in full force and effect.

N. **Four Corners.** This written Agreement, including all of its exhibits, and the Spectrum Lease represents the entire understanding between and obligations of the parties and supersedes all prior understandings, agreements, negotiations, and proposals, whether written or oral, formal or informal between the parties.

Any additional writings shall not modify any limitations or remedies provided in the Agreement. There are no other terms or conditions, oral, written, electronic or otherwise. There are no implied obligations. All obligations are specifically set forth in this Agreement. Further, there are no representations that induced this Agreement that are not included in it. The ONLY operative provisions are set forth in writing in this Agreement. Without limiting the generality of the foregoing, no purchase order placed by or on behalf of Customer shall alter any of the terms of this Agreement. The parties agree that such documents are for administrative purposes only, even if they have terms and conditions printed on them and even if and when they are accepted and/or processed by Sensus. Any goods, software or services delivered or provided in anticipation of this Agreement (for e.g., as part of a pilot or because this Agreement has not yet been signed but the parties have begun the deployment) under purchase orders placed prior to the execution of this Agreement are governed by this Agreement upon its execution and it replaces and supersedes any such purchase orders.

O. **Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Additionally, this Agreement may be executed by facsimile or electronic copies, all of which shall be considered an original for all purposes.

6. **Definitions.** As used in this Agreement, the following terms shall have the following meanings:

A. **"Affiliate"** of a party means any other entity controlling, controlled by, or under common control with such party, where "control" of an entity means the ownership, directly or indirectly, of 50% or more of either; (i) the shares or other equity in such entity; or (ii) the voting rights in such entity.

B. **"AMI System"** identifies the Sensus FlexNet Advanced Meter Infrastructure System comprised of the SmartPoint Modules, RF Field Equipment, Server Hardware, software licenses, FCC licenses, and other equipment provided to Customer hereunder. The AMI System only includes the foregoing, as provided by Sensus. The AMI System does not include goods, equipment, software, licenses or rights provided by a third party or parties to this Agreement.

C. **"Available Meter"** means an installed Sensus FlexNet meter (with a SmartPoint Module installed) or a Sensus SmartPoint Module which has been installed on a third party meter, and which, in either case, is not an Unavailable Meter (or on an Unavailable Meter in the case of SmartPoint Modules on third party meters) and which satisfies all of the following criteria: (i) it functions properly, and is not a damaged or failed meter; (ii) Intentionally Omitted (iii) it is serviced by RF Field Equipment that has not been subjected to a power failure greater than eight (8) total hours; (iv) neither it nor the RF Field Equipment that serves that meter has been affected by a Force Majeure event; (v) jamming of the radio spectrum is not preventing or interfering with radio communication to or from the meter; (vi) it is installed in the Service Territory; (vii) it has not been reported to Customer under Sensus' or Customer's preventative maintenance; (viii) its functioning or performance has not been adversely affected by a failure of Customer to perform its obligations or tasks for which it is responsible under this Agreement, (ix) its functioning or performance has not been adversely affected by a failure or insufficiency of the back haul telecommunications network of Customer for communications among the components of the Sensus AMI System; and (x) it has been installed in compliance with the procedures and specifications approved by Customer and Sensus.

D. **"Billing Window"** for a meter means the four day period commencing one day prior to the relevant billing day for such meter and ending two days after such billing day. The Billing Window for testing purposes shall be agreed by Customer and Sensus.

E. **"Confidential Information"** means any and all non-public information of either party, all technical information about either party's products or services, pricing information, marketing and marketing plans, Customer's End Users' data, AMI System performance, AMI System architecture and design, AMI System software, other business and financial information of either party, and all trade secrets of either party.

F. **"Echo Transceiver"** identifies the Sensus standalone, mounted relay device that takes the radio frequency readings from the SmartPoint Modules and relays them by radio frequency to the relevant FlexNet Base Station.

G. **"End User"** means any end user of electricity, water, and/or gas (as applicable) that pays Customer for the consumption of electricity, water, and/or gas, as applicable.

H. **"Escalator(s)"** means the following:

i. **For Software as a Service Sensus Analytics Applications:** three percent (3%).

ii. **For Software as a Service Logic Applications**: two and a half percent (2.5%)

iii. **For Water Meters**:

(a) **For bronze and low lead water metering products**: the percentage change, for the relevant period, of the average of; (a) the United States Bureau of Labor Statistics Producer Price Index, Commodities, Group: Metals and metal products, Item: Copper and copper-base alloy castings (excl. die-castings), series ID: WPU102807013, not seasonally adjusted; and (b) the United States Bureau of Labor Statistics Producer Price Index, Industry Data, Industry and Product: Plastics material and resins mfg., series ID: PCU 325211325211, not seasonally adjusted.#

(b) **For plastic main case meters**: the percentage change, for the relevant period, of the United States Bureau of Labor Statistics Producer Price Index, Industry Data, Industry and Product: Plastics material and resins mfg., series ID: PCU 325211325211, not seasonally adjusted.

(c) **For Omni meters**: the percentage change, for the relevant period, of the United States Bureau of Labor Statistics Producer Price Index, Commodities, Group: Metals and metal products, item: other gray and ductile iron castings, other, series ID: WPU101504, not seasonally adjusted.

iv. **For all other goods and services**: the percentage change, for the relevant period, of the United States Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) "All Items Less Food and Energy" for the U.S. City Average for All Items, 1982-84 = 100, not seasonally adjusted, or substantially similar succeeding index.

v. Any Escalator increases called forth in this Agreement shall be calculated to the third decimal point (e.g. 2.576%)

I. **"Field Devices"** means the meters and SmartPoint Modules.

J. **"FlexNet Base Station"** identifies the Sensus manufactured device consisting of one transceiver, to be located on a tower that receives readings from the SmartPoint Modules (either directly or via an Echo Transceiver) by radio frequency and passes those readings to the RNI by TCP/IP backhaul communication. For clarity, FlexNet Base Stations include Metro Base Stations.

K. **"Force Majeure"** means an event beyond a party's reasonable control, including, without limitation, acts of God, hurricane, flood, volcano, tsunami, tornado, storm, tempest, mudslide, vandalism, illegal or unauthorized radio frequency interference, strikes, lockouts, or other industrial disturbances, unavailability of component parts of any goods provided hereunder, acts of public enemies, wars, blockades, insurrections, riots, epidemics, earthquakes, fires, restraints or prohibitions by any court, board, department, commission or agency of the United States or any States, any arrests and restraints, civil disturbances and explosion.

L. **"Hosted Software"** means those items listed as an Application in Exhibit A.

M. **"In/Out Costs"** means any costs and expenses incurred by Customer in transporting goods between its warehouse and its End User's premises and any costs and expenses incurred by Customer in installing, uninstalling and removing goods.

N. **"Intellectual Property"** means patents and patent applications, inventions (whether patentable or not), trademarks, service marks, trade dress, copyrights, trade secrets, know-how, data rights, specifications, drawings, designs, maskwork rights, moral rights, author's rights, and other intellectual property rights, including any derivations and/or derivative works, as may exist now or hereafter come into existence, and all renewals and extensions thereof, regardless of whether any of such rights arise under the laws of the United States or of any other state, country or jurisdiction, any registrations or applications thereof, and all goodwill pertinent thereto.

O. **"Licensed Software"** means the Sensus proprietary software that Sensus expressly licenses to Customer as specifically set forth in this Agreement.

P. **"LCM"** identifies the load control modules.

Q. **"Ongoing Fee"** means the annual or monthly fees, as applicable, to be paid by Customer during the Term of this Agreement.

R. **"Patches"** means patches or other maintenance releases of the Software that correct processing errors and other faults and defects found previous versions of the Software. For clarity, Patches are not Updates or Upgrades.

S. **"Permitted Use"** means only for reading and analyzing data from Customer's Field Devices in the Service Territory. The Permitted Use does not include reading third party meters or reading meters outside the Service Territory.

T. **"Release"** means both Updates and Upgrades.

U. **"Remote Transceiver"** identifies the Sensus standalone, mounted relay device that takes the radio frequency readings from the SmartPoint Modules and relays them directly to the RNI by TCP/IP backhaul communication.

V. **"RF Field Equipment"** means, collectively, FlexNet Base Stations, Echo Transceivers and Remote Transceivers.

W. **"RNI"** identifies the regional network interfaces consisting of hardware and software used to gather, store, and report data collected by the FlexNet Base Stations from the SmartPoint Modules. The RNI hardware specifications will be provided by Sensus upon written request from Customer.

X. **"RNI Software"** identifies the Sensus proprietary software used in the RNI and any Patches, Updates, and Upgrades that are provided to Customer pursuant to the terms of this Agreement.

Y. **"Service Territory"** identifies the geographic area where Customer provides electricity, water, and/or gas (as applicable) services to End Users as of the Effective Date. This area will be described on the propagation study in the parties' Spectrum Lease filing with the FCC .

Z. **"Server Hardware"** means the RNI hardware.

AA. **"SmartPoint™ Modules"** identifies the Sensus transmission devices installed on devices such as meters, distribution automation equipment and demand/response devices located at Customer's End Users' premises that take the readings of the meters and transmit those readings by radio frequency to the relevant FlexNet Base Station, Remote Transceiver or Echo Transceiver.

BB. **"Software"** means all the Sensus proprietary software provided pursuant to this Agreement, and any Patches, Updates, and Upgrades that are provided to Customer pursuant to the terms of this Agreement. The Software does not include any third party software.

CC. **"TouchCoupler Unit"** identifies an inductive coupler connection from a water register to the SmartPoint Module.

DD. **"Unavailable Meters"** include meters with sockets with power cut at the pole, meters that are booted on the line side, sockets that are not provided power due to a power delivery system failure, meters with tamper, theft or other human induced failures that render the meter or SmartPoint Module incapable of providing a read, a Force Majeure event induced failures of the power delivery system, socket or meter, and/or any system or meter maintenance issue that precludes the meter from transmitting its message to the network. Examples of Unavailable Meters include: (i)Intentionally Omitted; (ii)Intentionally Omitted; (iii)Intentionally Omitted; (iv)Intentionally Omitted; (v) Broken TouchCoupler unit: the TouchCoupler unit is damaged by intentional or unintentional acts; (vi) Broken Clip: the clip that holds the TouchCoupler unit into the radio package housing is broken and the unit cannot complete the inductive electrical connection; (vii) Improper installation of the TouchCoupler unit: the TouchCoupler unit is not pushed all the way into the housing clip causing the unit to not be able to complete the inductive electrical connection; (viii) Unit not installed through the pit lid: the unit is not installed with the antenna positioned through the pit lid and properly secured with the retaining nut. The radio unit must also be securely attached to the antenna section; (ix) Radio unit not securely attached to the Antenna unit: The water-proof SmartPoint Module housing is not properly installed and secured to the antenna unit; (x) Damaged antenna: the unit's antenna is damaged by intentional or unintentional acts; (xi) Damaged radio package: the unit's water-proof radio package is damaged by intentional or unintentional acts; (xii) Data Base errors: the unit is removed from the system but not updated in the database. Still shown as in the system when in fact has been removed; (xiii) Phantom Units: the unit is removed from the system but is still transmitting and being heard by the system; and (xiv) Other Installation Defect: the unit is otherwise installed improperly so that it does not communicate with the FlexNet Base Station.

EE. **"Updates"** means releases of the Software that constitute a minor improvement in functionality.

FF. **"Upgrades"** means releases of the Software which constitute a significant improvement in functionality or architecture of the Software.

GG. **"WAN Backhaul"** means the communication link between FlexNet Base Stations and Remote Transceivers and RNI.

Exhibit A
Software

Software as a Service

I. Description of Services

This exhibit contains the details of the Software as a Service that Sensus shall provide to Customer if both; (i) pricing for the application of Software as a Service has been provided to the Customer; and (ii) the Customer is current in its payments for such application of Software as a Service.

A. Software as a Service Generally.

Software as a Service is a managed service in which Sensus will be responsible for the day-to-day monitoring, maintenance, management, and supporting of Customer's software applications. In a Software as a Service solution, Sensus owns all components of the solution (server hardware, storage, network equipment, Sensus software, and all third-party software) required to run and operate the application. These software applications consist of the following (each an "Application"):

- Regional Network Interface (RNI) Software
- Sensus Analytics
  - Enhanced Package

The managed application systems consist of the hardware, Sensus Software, and other third-party software that is required to operate the software applications. Each Application will have a production, and Disaster Recovery (as described below) environment. Test environments are not provided unless otherwise specifically agreed by Sensus in writing. Sensus will manage the Applications by providing 24 x 7 x 365 monitoring of the availability and performance of the Applications.

B. Usage License. Subject to all the terms and conditions of this Agreement, Sensus hereby gives Customer a license under Sensus' Intellectual property rights to use the Sensus Applications for the Permitted Use for so long as Customer is current in its payments for the Applications ("Usage License"). This Usage License shall commence on the Effective Date and shall terminate upon the earlier of; (i) the expiration or termination of this Agreement for any reason; (ii) if Customer uses the Applications provided hereunder other than for the Permitted Use; and (iii) the Application is terminated as set forth below.

C. Termination of Software as a Service. Customer shall have the option at any time after full deployment but before the end of the Term to terminate any Application by giving Sensus one hundred twenty (120) days prior written notice. Such notice, once delivered to Sensus, is irrevocable. Should Customer elect to terminate any Application, Customer acknowledges that; (a) Customer shall pay all applicable fees, including any unpaid Software as a Service fees; and (b) Software as a Service for such Application shall immediately cease. If Customer elects to terminate the RNI Application in the Software as a Service environment but does not terminate the Agreement generally, then upon delivery of the notice to Sensus, Customer shall purchase the necessary (a) RNI hardware and (b) RNI software license, each at Sensus' then-current pricing. No portion of the Software as a Service fees shall be applied to the purchase of the RNI hardware or software license.

D. "Software as a Service" means only the following services:

i. Sensus will provide the use of required hardware, located at Sensus' or a third-party's data center facility (as determined by Sensus), that is necessary to operate the Application.

ii. Sensus will provide production and disaster recovery environments for Application.

iii. Sensus will provide patches, updates, and upgrades to latest Sensus Hosted Software release.

iv. Sensus will configure and manage the equipment (server hardware, routers, switches, firewalls, etc.) in the data centers:
   a. Network addresses and virtual private networks (VPN)
   b. Standard time source (NTP or GPS)
   c. Security access points
   d. Respond to relevant alarms and notifications

v. Capacity and performance management. Sensus will:
   a. Monitor capacity and performance of the Application server and software applications 24x7 using KPI metrics, thresholds, and alerts to proactively identify any potential issues related to system capacity and/or performance (i.e. database, backspool, logs, message broker storage, etc.)
   b. If an issue is identified to have a potential impact to the system, Sensus will open an incident ticket and manage the ticket through resolution per Exhibit B, Technical Support.
   c. Manage and maintain the performance of the server and perform any change or configuration to the server, in accordance to standard configuration and change management policies and procedures.
   d. Manage and maintain the server storage capacity and performance of the Storage Area Network (SAN), in accordance to standard configuration and change management policies and procedures.
   e. Exceptions may occur to the system that require Sensus to take immediate action to maintain the system capacity and performance levels, and Sensus has authority to make changes without Customer approval as needed, in accordance to standard configuration and change management policies and procedures.

vi. Database management. Sensus will:
   a. Define data retention plan and policy.
   b. Monitor space and capacity requirements.
   c. Respond to database alarms and notifications.
   d. Install database software upgrades and patches.
   e. Perform routine database maintenance and cleanup of database to improve capacity and performance, such as rebuilding indexes, updating indexes, consistency checks, run SQL query/agent jobs, etc.

vii. Incident and Problem Management. Sensus will:
   a. Proactively monitor managed systems (24x7x365) for key events and thresholds to proactively detect and identify incidents.
   b. Respond to incidents and problems that may occur to the Application(s).
   c. Maintain policies and procedures for responding to incidents and performing root cause analysis for ongoing problems.
   d. Correlate incidents and problems where applicable.
   e. Sensus personnel will use the Salesforce Self Service Portal to document and track incidents.
   f. In the event that a Sensus personnel is unable to resolve an issue, the issue will be escalated to the appropriate Subject Matter Expert

(SME).

g. Maintain responsibility for managing incident and problems through resolution and will coordinate with Customer's personnel and/or any required third-party vendor to resolve the issue.
h. Provide telephone support consistent with Exhibit B, Technical Support in the case of undetected events.

viii. Security Management. Sensus will:
a. Monitor the physical and cyber security of the server and Application(s) 24x7 to ensure system is highly secure in accordance with NIST Security Standards.
b. Perform active intrusion prevention and detection of the data center network and firewalls, and monitor logs and alerts.
c. Conduct period penetration testing of the network and data center facilities.
d. Conduct monthly vulnerability scanning by both internal staff and external vendors.
e. Perform Anti-Virus and Malware patch management on all systems.
f. Install updates to virus protection software and related files (including Virus signature files and similar files) on all servers from the update being generally available from the anti-virus software provider.
g. Respond to any potential threat found on the system and work to eliminate Virus or Malware found.
h. Sensus adheres to and submits certification to NERC/CIP Cyber Security standards.
i. Sensus actively participates/monitors industry regulation/standards regarding security – NERC, FERC, NIST, OpenSG, etc. through the dedicated Sensus Security team.
j. Provide secure web portal access (SSL) to the Application(s).

ix. Backup and Disaster Recovery Management. Sensus will:
a. Perform daily backups of data providing one (1) year of history for auditing and restoration purposes.
b. Back-up and store data (on tapes or other storage media as appropriate) off-site to provide protection against disasters and to meet file recovery needs.
c. Conduct incremental and full back-ups to capture data, and changes to data, on the Application(s).
d. Sensus will replicate the Application(s) environments to a geographically separated data center location to provide a full disaster recovery environment for the Application production system.
e. Provide disaster recovery environment and perform fail-over to DR environment within forty-eight (48) hours of declared event.
f. Generate a report following each and any disaster measuring performance against the disaster recovery plan and identification of problem areas and plans for resolution.
g. Maintain a disaster recovery plan. In the event of a disaster, Sensus shall provide the services in accordance with the disaster recovery plan.
h. In the case of a disaster and loss of access to or use of the Application, Sensus would use commercially reasonable efforts per the Recovery Time Objectives and Recovery Point Objectives specified herein to restore operations at the same location or at a backup location within forty-eight (48) hours.
i. The Application shall have a Recovery Time Objective (RTO) of forty-eight (48) hours.
j. The Recovery Point Objective (RPO) shall be a full recovery of the Application(s), with an RPO of one (1) hours, using no more than a twenty-four (24) hour old backup. All meter-related data shall be pushed from each Base Station/TGB restoring the database to real-time minus external interfaced systems from the day prior.
k. Data from external interfaced systems shall be recreated within a forty-eight (48) hour period with the assistance of Customer personnel and staff, as needed.

E. Customer Responsibilities:

i. Coordinate and schedule any changes submitted by Sensus to the system in accordance with standard configuration and change management procedures.
ii. Participate in all required configuration and change management procedures.
iii. Customer will log incidents related to the managed Application with Sensus personnel via email, web portal ticket entry, or phone call.
iv. Responsible for periodic processing of accounts or readings (i.e. billing files) for Customer's billing system for billing or other analysis purposes.
v. Responsible for any field labor to troubleshoot any SmartPoint modules or smart meters in the field in populations that have been previously deployed and accepted.
vi. First response labor to troubleshoot FlexNet Base Station, Echo Transceivers, Remote Transceivers or other field network equipment.
vii. Responsible for local area network configuration, management, and support.
viii. Identify and research problems with meter reads and meter read performance.
ix. Create and manage user accounts.
x. Customize application configurations.
xi. Support application users.
xii. Investigate application operational issues (e.g. meter reads, reports, alarms, etc.).
xiii. Respond to alarms and notifications.
xiv. Perform firmware upgrades over-the-air, or delegate and monitor field personnel for on-site upgrades.

F. "Software as a Service" does not include any of the following services:

i. Parts or labor required to repair damage to any field network equipment that is the result of a Force Majeure event.
ii. Any integration between applications, such as Harris MeterSense, would require a Professional Services contract agreement to be scoped, submitted, and agreed in a signed writing between Sensus and all the applicable parties.

If an item is not listed in subparagraphs in item (D) above, such item is excluded from the Software as a Service and is subject to additional pricing.

II. Further Agreements

A. System Uptime Rate

i. Sensus (or its contractor) shall manage and maintain the Application(s) on computers owned or controlled by Sensus (or its contractors) and shall provide Customer access to the managed Application(s) via internet or point to point connection (i.e., Managed-Access use), according to the terms below. Sensus endeavors to maintain an average System Uptime Rate equal to ninety-nine (99.0) per Month (as defined below). The System Uptime Rate, cumulative across all Applications, shall be calculated as follows:

$$\text{System Uptime Rate} = 100 \times \frac{\text{(TMO – Total Non-Scheduled Downtime minutes in the Month)}}{\text{TMO}}$$

i. **Calculations**
   a. ***"Targeted Minutes of Operation"*** or ***"TMO"*** means total minutes cumulative across all Applications in the applicable month ("Month") minus the Scheduled Downtime in the Month.
   b. ***"Scheduled Downtime"*** means the number of minutes during the Month, as measured by Sensus, in which access to any Application is scheduled to be unavailable for use by Customer due to planned system maintenance. Sensus shall provide Customer notice (via email or otherwise) at least seven (7) days in advance of commencement of the Scheduled Downtime.
   c. ***"Non-Scheduled Downtime"*** means the number of minutes during the Month, as measured by Sensus, in which access to any Application is unavailable for use by Customer due to reasons other than Scheduled Downtime or the Exceptions, as defined below (e.g., due to a need for unplanned maintenance or repair).

ii. **Exceptions.** "Exceptions" mean the following events:
   a. Force Majeure;
   b. Emergency Work, as defined below; and
   c. Lack of Internet Availability, as described below.

i. **Emergency Work.** In the event that Force Majeure, emergencies, dangerous conditions or other exceptional circumstances arise or continue during TMO, Sensus shall be entitled to take any actions that Sensus, in good faith, determines is necessary or advisable to prevent, remedy, mitigate, or otherwise address actual or potential harm, interruption, loss, threat, security or like concern to any of the Application(s) ("Emergency Work"). Such Emergency Work may include, but is not limited to: analysis, testing, repair, maintenance, re-setting and other servicing of the hardware, cabling, networks, software and other devices, materials and systems through which access to and/or use of the Application(s) by the Customer is made available (the "Managed Systems"). Sensus shall endeavor to provide advance notice of such Emergency Work to Customer when practicable and possible.

ii. **Lack of Internet Availability.** Sensus shall not be responsible for any deterioration of performance attributable to latencies in the public internet or point-to-point network connection operated by a third party. Customer expressly acknowledges and agrees that Sensus does not and cannot control the flow of data to or from Sensus' networks and other portions of the Internet, and that such flow depends in part on the performance of Internet services provided or controlled by third parties, and that at times, actions or inactions of such third parties can impair or disrupt data transmitted through, and/or Customer's connections to, the Internet or point-to-point data connection (or portions thereof). Although Sensus will use commercially reasonable efforts to take actions Sensus may deem appropriate to mitigate the effects of any such events, Sensus cannot guarantee that such events will not occur. Accordingly, Sensus disclaims any and all liability resulting from or relating to such events.

B. **Data Center Site-Security.** Although Sensus may modify such security arrangements without consent or notice to Customer, Customer acknowledges the following are the current arrangements regarding physical access to and support of the primary hardware components of the Managed Systems:
   i. The computer room(s) in which the hardware is installed is accessible only to authorized individuals.
   ii. Power infrastructure includes one or more uninterruptible power supply (UPS) devices and diesel generators or other alternative power for back-up electrical power.
   iii. Air-conditioning facilities (for humidity and temperature controls) are provided in or for such computer room(s) and can be monitored and adjusted for humidity and temperature settings and control. Such air systems are supported by redundant, back-up and/or switch-over environmental units.
   iv. Such electrical and A/C systems are monitored on an ongoing basis and personnel are available to respond to system emergencies (if any) in real time.
   v. Dry pipe pre-action fire detection and suppression systems are provided.
   vi. Data circuits are available via multiple providers and diverse paths, giving access redundancy.

C. **Responsibilities of Customer**
   i. Customer shall promptly pay all Software as a Service fees.
   ii. Customer may not (i) carelessly, knowingly, intentionally or maliciously threaten, disrupt, harm, abuse or interfere with the Application(s), Managed Systems or any of their functionality, performance, security or integrity, nor attempt to do so; (ii) impersonate any person or entity, including, but not limited to, Sensus, a Sensus employee or another user; or (iii) forge, falsify, disguise or otherwise manipulate any identification information associated with Customer's access to or use of the Application(s).
   iii. The provisioning, compatibility, operation, security, support, and maintenance of Customer's hardware and software ("Customer's Systems") is exclusively the responsibility of Customer. Customer is also responsible, in particular, for correctly configuring and maintaining (i) the desktop environment used by Customer to access the Application(s) managed by Sensus; and (ii) Customer's network router and firewall, if applicable, to allow data to flow between the Customer's Systems and Sensus' Managed Systems in a secure manner via the public Internet.
   iv. Upon receiving the system administrator account from Sensus, Customer shall create username and passwords for each of Customer's authorized users and complete the applicable Sensus registration process ("Authorized Users"). Such usernames and passwords will allow Authorized Users to access the Application(s). Customer shall be solely responsible for maintaining the security and confidentiality of each user ID and password pair associated with Customer's account, and Sensus will not be liable for any loss, damage or liability arising from Customer's account or any user ID and password pairs associated with Customer. Customer is fully responsible for all acts and omissions that occur through the use of Customer's account and any user ID and password pairs. Customer agrees (i) not to allow anyone other than the Authorized Users to have any access to, or use of Customer's account or any user ID and password pairs at any time; (ii) to notify Sensus immediately of any actual or suspected unauthorized use of Customer's account or any of such user ID and password pairs, or any other breach or suspected breach of security, restricted use or confidentiality; and (iii) to take the Sensus-recommended steps to log out from and otherwise exit the Application(s) and Managed Systems at the end of each session. Customer agrees that Sensus shall be entitled to rely, without inquiry, on the validity of the user accessing the Application(s) application through Customer's account, account ID, usernames or passwords.
   v. Customer shall be responsible for the day-to-day operations of the Application(s) and AMI System. This includes, without limitation, (i) researching problems with meter reads and system performance, (ii) creating and managing user accounts, (iii) customizing application configurations, (iv) supporting application users, (v) investigating application operational issues, (vi) responding to alarms and notifications, and (vii) performing over-the-air commands (such as firmware updates or configuration changes).

III. Sensus Analytics

A. **Essential Package.** The Essential Package of the Sensus Analytics Application shall consist of the following modules:
   i. Device Access
      a. Allows search for meter details by using data imported from the Billing system or the Sensus Device ID or AMI ID.
      b. Allows a view of the meter interval or register reads.
      c. Meter data is available to be copied, printed, or saved to certain user programs or file formats, specifically CSV, PDF, and Spreadsheet.
      d. Allows the current and historical data to be viewed.
      e. Allows the current usage to be compared to historical distribution averages.
      f. Allows the user to see the meter location on a map view.

g. Allows notifications for an event on a single meter to be forwarded to a Customer employee.
h. Allows details to be viewed about a meter – (dependent on the data integrated from other systems).

ii. Meter Insight (provides the following)
a. # of active meters.
b. # of orphaned meters with drill down to the list of meters.
c. # of inactive meters with drill down to the list of meters.
d. # of stale meters with drill down to the list of meters.
e. # of almost stale meters with drill down to the list of meters.
f. # of meters where no read is available with drill down to the list of meters.
g. # of meters with high threshold exceptions with drill down to the list of meters.
h. # of unknown radios with drill down to the list of meters.

iii. Report Access
a. Allows the user to see meter alarms and choose a report from a list of standard reports.
b. Master Route Register Reads: Shows the latest reads for all meters within specified time window.
c. Meter Route Intervals Reads: Allows users to inspect intervals of a single meter over a period of time.
d. Master Route No Readings: List all meters that are active in the system, but have not been sending reads within the specified time window.
e. Consumption Report: List meters' consumption based on meter readings within the specified time window.
f. Zero Consumption for Period: List meters whose readings do not change over a period of time.
g. Negative Consumption: Shows the number of occurrences and readings of negative consumption for the last 24hr, 48hr and 72hr from the entered roll up date.
h. High Low Exception Report: Displays meters whose reads exceed minimum or/and maximum threshold, within a time range.
i. Consumption vs Previous Reported Read: Compares latest reading (from RNI) with last known read received from CIS.
j. Consumption Exception 24 hour Report: This report shows meters that satisfy these two conditions: (1) The daily average consumptions exceed entered "daily consumption threshold;" (2) The number of days when daily thresholds are exceeded are greater than the entered " exception per day threshold."
k. Endpoint Details: Shows the current state of meters that are created within the specified time range.
l. Orphaned Meters: List meters that are marked as 'orphaned', which are created as of entered "Created as of" parameter.
m. Billing Request Mismatch: Displays meters in a billing request that have different AMR id with the ones sent by RNI. It also shows AMR id in billing request that have different meter Id in the RNI.
n. Users need to enter which billing request file prior to running the report.
o. Alarms Report: List all alarms occurred during a time window. Users can select which alarm to show.

iv. Billing Access
a. Initiate the creation of billing export files formatted to the import needs of the billing system.
b. Receive billing request files from the billing system to identify what meters to include in the billing export file in the case where billing request file option is used.
c. Provides a repository of past billing files that were either used for billing preparation or actually send to the billing system.
d. Will store created billing files for a period of three years unless otherwise denoted.
e. The system will allow creation of test files before export to the billing system.

v. Billing Adaptor
a. The underlying configurator and tools mapping the extraction of billing data to enable integration to the utility's billing system.

vi. Data Store
a. Allows storage of meter reading data including Intervals, Registers, and Alarms to be stored.
b. Stored data is available online for reports and analysis.
c. Data will be retained for 3 years. Additional duration can be purchased.

B. **Enhanced Package.** The Enhanced Package shall consist of the modules listed above in the Essential Package, as well as the following additional modules:

i. Alarm Dashboard
a. Allows the user to summarize and filter alarms by a date range.
b. Allows the user to review all alarm types on a single screen.
c. The user can filter out the alarms not wanted on the screen.
d. Alarm totals can be visualized.
e. Adds a view of trending alarms over time.
f. Click to drill down on an alarm to gain more information on specific events.
g. Click to analyze a specific event on a particular device.

ii. Alarm Console
a. Follow real time monitors of the alarms coming from Customer's meters.
b. Provides a single view for all alarms across the entire network.
c. Allows the user to view trending of each alarm over time.

iii. Alert Manager
a. Allows creation of alert groups who will be notified when an alarm occurs.
b. Users can manage alert groups by adding and removing group members.
c. Allows selection of notification method for how end users in the group will be notified; email or SMS (text message).
d. Allows creation of an alert from the available system events from smart points and assign to a group.
e. Monitors the systems meters for events. When an event is triggered, all users in the group will be notified.

D. **Integration of Sensus Analytics.** Sensus shall provide integration support services to Customer only to the extent specifically provided below:

i. Sensus shall provide Customer with a simple flat file specification known as VFlex for the integration of the Customer's back office system to the Sensus Analytics modules. This flat file may be delimited or fixed width. This specification allows Customer to transmit each day or as needed: the devices and end users in the system, end user status, end user account information, end user name, and other end user details. When sent to the Sensus FTP servers, this file exchange will enable the system to become operational with the Customer's systems. Customer shall produce this file and transmit it to the FTP location designated by Sensus. Sensus will provide reasonable support to explain to Customer the required vs. optional fields that are in the specification, testing and validation of the file format and content.
a. In scope of the included integration efforts is the mapping the Customer's fields to the VFlex specification.

b. Out of scope and subject to additional charges will be the transformation of data where business logic including code must be written to modify the field content or format of the data to meet the VFlex specification.

ii. Sensus' integration services consists of four (4) hours of assistance (remote or on-site, as determined by Sensus). If additional time is needed to complete the integration efforts, Sensus shall invoice Customer for additional fees on an actual time and materials basis.

iii. **If an item is not listed in subparagraphs (i) or (ii) above, such item is excluded from the integration of Sensus Analytics Support and is subject to additional pricing.**

E. **Data Import.** The Sensus Analytics Application contains adapters for the import of data from; (a) Customer's FlexNet AMI System; and/or (b) AutoRead application for handheld and drive by systems, as applicable.

F. **Customer Acknowledgements.**

i. Customer acknowledges that the Sensus Analytics Application provides up to fifty (50) user logins for Customer's use.

ii. Customer acknowledges and agrees the Sensus Analytics Application is based upon the actual number of End Users within Customer's Service Territory. Pricing may increase if Customer's Service Territory or actual number of End Users expands.

iii. Customer acknowledges that all data related to the Sensus Analytics Applications is geographically hosted within the United States of America. Customer accepts the geographic location of such hosting, and indemnifies Sensus for any claims resulting therefrom.

iv. Customer acknowledges and agrees that the Intellectual Property provisions of this Agreement apply in all respects to Customer's access to and use of the Sensus Analytics Applications.

v. Customer is responsible for validating the data analyzed by the Sensus Analytics Applications. Sensus makes no promises of improving Customer's operations or saving Customer money, nor is Sensus liable for any damages resulting from decisions made by Customer related to Customer's use of Sensus Analytics.

IV. Third Party Software.

A. **RedHat Linux.** If Sensus is providing Customer with a license to use RedHat Linux Software, Customer agrees to the following:

By entering into this Agreement, Customer agrees to abide by and to be legally bound by the terms and conditions of the Red Hat End User License Agreements identified below, each of which are incorporated into this Agreement by reference and are available at the websites identified below. Please read the Red Hat End User License Agreements and incorporated references carefully.

Subscription:	End User License Agreement:
Red Hat Enterprise Linux	http://www.redhat.com/licenses/rhel_rha_eula.html
JBoss Enterprise Middleware	http://www.redhat.com/licenses/jboss_eula.html

Exhibit B
Technical Support

1. Introduction

Sensus Technical Services provides utility customers with a single point of contact for Tier 1 support of technical issues as well as any coordination of additional resources required to resolve the issue. Requests that require specialized skills are to be forwarded to a senior support engineer or Technical Advisor within the team for further analysis. If Technical Services has exhausted all troubleshooting efforts for the product type, the issue will escalate to the Engineering Support Team. Occasionally, on-site troubleshooting/analysis may be required. The preferred order of on-site support is:

a) The Customer (for assistance with the easiest and lowest time-consuming activities such as power on/power off).

b) The local distributor.

c) Sensus employees or contracted personnel, if required to fulfill a contract commitment.

2. Support Categories

2.1. General questions regarding functionality, use of product, how-to, and requests for assistance on Sensus AMR, AMI, RF Network Equipment, Metering Products and Sensus Lighting Control.

2.2. Proactive reporting and resolution of problems.

2.3. Reactive reporting to isolate, document, and solve reported hardware/software defects.

2.4. Responding to service requests and product changes.

2.5. Addressing customer inquiries with printed or electronic documentation, examples, or additional explanation/clarification.

3. Support Hours

3.1. Standard Support Hours: Toll-free telephone support (1-800-638-3748 option #2) is available Monday thru Friday from 8:00AM EST to 8:00PM EST. After-hours, holiday and weekend support for Severity 1 and Severity 2 issues is available by calling 1-800-638-3748, option #8.

4. Support Procedures

4.1. Customer identifies an issue or potential problem and calls Technical Services at 1-800-638-3748 Option #2. The Customer Service Associate or Technical Support Engineer will submit a Support ticket.

4.2. The Customer Service Associate or Technical Support Engineer will identify the caller name and utility by the assigned software serial number, city, and state in which the call originated. The nature of the problem and severity levels will be agreed upon by both parties (either at the time the issue is entered or prior to upgrading or downgrading an existing issue) using the severity definitions below as a guideline. The severity level is then captured into a support ticket for creation and resolution processing. Any time during the processing of this ticket, if the severity level is changed by Sensus, the customer will be updated.

Severity Levels Description:

Sev1 Customer's production system is down. The system is unusable resulting in total disruption of work. No workaround is available and requires immediate attention.

Example: Network mass outage, all reading collection devices inoperable, inoperable head end software (e.g., RNI Software, Sensus MDM).

Sev2 Major system feature/function failure. Operations are severely restricted; there is a major disruption of work, no acceptable work-around is available, and failure requires immediate attention.

Examples: Network equipment failure (e.g., FlexNet Echo, FlexNet Remote, Base Station transceiver, or VGB); inoperable reading devices (e.g., AR5500, VXU, VGB, or CommandLink); head end software application has important functionality not working and cannot create export file for billing system operations.

Sev3 The system is usable and the issue doesn't affect critical overall operation.

Example: Minor network equipment failure (e.g., Echo/Remote false alarms or Base Station transceiver false alarms); head end software application operable but reports are not running properly, modification of view or some non-critical function of the software is not running.

Sev4 Minor system issues, questions, new features, or enhancement requests to be corrected in future versions.

Examples: Minor system issues, general questions, and "How-To" questions.

4.3. The Customer Service Associate or Technical Support Engineer identifies whether or not the customer is on support. If the customer is not on support, the customer is advised of the service options as well as any applicable charges that may be billed.

4.4. Calls are placed in a queue from which they are accessible to Technical Support Engineers on a first-come-first-serve basis. A first level Customer Service Associate may assist the customer, depending on the difficulty of the call and the representative's technical knowledge. Technical Support Engineers (Tier 1 support) typically respond/resolve the majority of calls based on their product knowledge and experience. A call history for the particular account is researched to note any existing pattern or if the call is a new report. This research provides the representative a basis and understanding of the account as well as any associated problems and/or resolutions that have been communicated.

a. Technical Services confirms that there is an issue or problem that needs further analysis to determine its cause. The following information must be collected: a detailed description of the issue's symptoms, details on the software/hardware product and version, a description of the environment in which the issue arises, and a list of any corrective action already taken.

b. Technical Services will check the internal database and product defect tracking system, to see if reports of a similar problem exist, and if any working solutions were provided. If an existing resolution is found that will address the reported issue, it shall be communicated to the customer. Once it is confirmed that the issue has been resolved, the ticket is closed.

c. If there is no known defect or support that defines the behavior, Technical Services will work with the customer to reproduce the issue. If the issue can be reproduced, either at the customer site or within support center test lab, Technical Services will escalate the ticket for further investigation / resolution.

If the issue involves units that are considered to be defective with no known reason, the representative will open a Special Investigation RMA through the Support system. If it is determined that a sample is required for further analysis, the customer will be provided with instructions that detail where to send the product sample(s) for a root cause analysis. Once it is determined that the issue cannot be resolved by Tier 1 resources, the ticket will be escalated to Tier 2 support for confirmation/workarounds to resolve immediate issue. Technical Services will immediately contact the customer to advise of the escalation. The response and escalation times are listed in Section 5. At this time, screen shots, log files, configuration files, and database backups will be created and attached to the ticket.

5. **Response and Resolution Targets.**

Sensus Technical Support will make every reasonable effort to meet the following response and resolution targets:

Severity	Standard Target Response	Standard Target Resolution	Resolution (one or more of the following)
1	30 Minutes	Immediately assign trained and qualified Services Staff to correct the error on an expedited basis. Provide ongoing communication on the status of a correction.	• Satisfactory workaround is provided. • Program patch is provided. • Fix incorporated into future release. • Fix or workaround incorporated into the Support Knowledge Base.
2	4 hours	Assign trained and qualified Services Staff to correct the error. Provide communication as updates occur.	• Satisfactory workaround is provided. • Program patch is provided. • Fix incorporated into future release. • Fix or workaround incorporated into the Support Knowledge Base.
3	1 Business Day	90 business days	• Answer to question is provided. • Satisfactory workaround is provided. • Fix or workaround incorporated into the Support Knowledge Base. • Fix incorporated into future release.
4	2 Business Days	12 months	• Answer to question is provided. • Fix or workaround incorporated into the Support Knowledge Base.

6. **Problem Escalation Process.**

6.1. If the normal support process does not produce the desired results, or if the severity has changed, the issue may be escalated as follows to a higher level of authority.

6.1.1. Severity 1 issues are escalated by Sales or Technical Services to a Supervisor if not resolved within 2 hours; to the Manager level if not resolved within 4 hours; to the Director level if not resolved within the same business day; and to the VP level if not resolved within 24 hours.

6.1.2. A customer may escalate an issue by calling 1-800-638-3748, Option 2. Please specify the Support ticket number and the reason why the issue is being escalated.

6.1.3. In the event that a customer is not satisfied with the level of support or continual problem with their products, they may escalate a given Support ticket to Manager of Technical Services (1-800-638-3748, Option 2).

7. **General Support Provisions and Exclusions.**

7.1. Sensus provides online documentation for Sensus products through the Sensus User Forum (http://myflexnetsystem.com/Module/User/Login). All Sensus customers are provided access to this online database, which includes operation, configuration and technical manuals. Sensus also hosts periodic user group teleconferences to facilitate the interchange of product ideas, product enhancements, and overall customer experiences. The customer shall provide names and email accounts to Sensus so Sensus may provide access to the Portal.

7.2. Specialized support from Sensus is available on a fee basis to address support issues outside the scope of this support plan or if not covered under another specific maintenance contract. For example, specialized systems integration services or out of warranty network equipment repair that is not covered under a separate maintenance contract.

Exhibit C
Pricing

Pricing			
Item Description	Quantity	Price per Unit	Notes
Goods			
SEE EXHIBIT "C"/QUOTATION AT PAGES 14 THROUGH 17			
Services			
SEE EXHIBIT "C"/QUOTATION AT PAGES 14 THROUGH 17			
Ongoing Fees			
SEE EXHIBIT "C"/QUOTATION AT PAGES 14 THROUGH 17	Annually		

Payment Terms

Escalation. Customer shall pay for all goods and services rendered by Sensus hereunder at the prices set forth in this Exhibit C (or in the Quote if one is referenced on the first page. If there is a Quote referenced on the first page, such Quote is incorporated into this Exhibit C by reference). The pricing in Exhibit C shall remain firm until the Trigger Date (as defined on the first page of the Agreement). Starting on the Trigger Date, and on each anniversary of the Trigger Date thereafter, the pricing in Exhibit C shall automatically adjust to equal the summation of (i) the amount charged for such pricing component during the immediately preceding year ("Base Amount"); plus (ii) the product of the Base Amount multiplied by the percentage rate of increase in the Escalator(s) during the immediately preceding year (which product shall not be less than zero, such that the pricing in Exhibit C cannot decrease under this section). The Escalator(s) will be calculated utilizing the Escalator(s) published the month prior to the anniversary of the Trigger Date compared to the equivalent month from one year earlier to determine the escalation. For example, if the Trigger Date occurs in January 2015, the Escalator(s) will be calculated by comparing December 2013 and December 2014 figures.

Equipment. Invoices for all Field Devices, RF Field Equipment, Server Hardware and any other goods sold by Sensus hereunder shall be delivered along with the relevant goods.

Third Party Devices. In cases where Customer requests or requires Sensus to deliver SmartPoint Modules to a third party meter manufacturer (or any other third party), payment for such modules is due within thirty (30) days of the invoice date to such manufacturer or other third party, irrespective of how long it takes such third party to deliver the SmartPoint Modules to Customer.

Services. Invoices for Ongoing Fees and services shall be delivered annually or monthly, as applicable, in advance. Invoices for other services shall be delivered upon completion of the applicable service.

Invoices and Payment. Customer shall pay all invoices within thirty (30) days of the Customer's receipt of the proper invoice in accordance with the Florida Prompt Payment Act.. Sensus reserves the right to establish credit limits for Customer and may require full or partial payment prior to shipment of any goods or commencement of any services provided hereunder. All payments shall be made via electronic payment to the account(s) indicated by Sensus from time to time, unless Sensus requests a change in payment methods in writing.

Late Payments. Any invoices not disputed in good faith by Customer which Customer does not pay within the time provided in this Agreement shall bear interest at the lower of (i) one percent (1%) per month in accordance with the Florida Prompt Payment Actor (ii) the highest rate permitted by applicable law (collectively, "Interest Rate").

Disputed Invoices. Resolutions of disputed invoices will be handled in accordance with Section 218.76, Florida Statutes of the Florida Prompt Payment Act, as may be amended.

Withholding. Customer may withhold payment on an invoice for defective goods and services. Payment by Customer of an invoice shall deem Sensus to have fully complied with this Agreement for all goods and services represented in the invoice and with all other terms and conditions of this Agreement prior to the date of such payment

Taxes. All prices quoted are exclusive of federal, state and municipal taxes. Customer is exempt from taxation and no taxes will be imposed on this Agreement or the goods, services, licenses and/or other rights provided to Customer. Unless and until Customer provides Sensus with its tax exempt certificate, Customer shall be liable for all sales, use and other taxes (whether local, state or federal) imposed on this Agreement or the goods, services, licenses, and/or other rights provided to Customer hereunder.

Delivery and Packaging. Customer shall pay for delivery of the Equipment from Sensus' or Sensus' contracted manufacturers' factory to Customer's warehouse. Sensus reserves the right to select the manner in which Equipment is packaged. Quoted prices include regular packing. Special requirements for packing will be subject to extra charges. Shipping and completion dates quoted by Sensus are made in good faith but are not guaranteed.

Address for Purchase Orders. All purchase orders shall be sent to the address listed below. Sensus may change this address at any time, upon written notice to the Customer (such notice may be provided via email).

Sensus USA Inc.
PO Box 487
Uniontown, PA 15401
Attn Customer Service
Fax: 800-888-2403
Email: icon.support@sensus.com

Exhibit C

450 North Gallatin Avenue
P.O. Box 487
Uniontown, PA 15221 USA

1-800-Meterll
1-800-638-3748
www.sensus.com

QUOTATION
Your Quote Number: 28578
Reference: SA ENHANCED &CP

Bill to Customer: 084060

ATTENTION WANEYA BRANT
BOYNTON BEACH CITY OF
PURCHASING DEPARTMENT
PO BOX 310
BOYNTON BEACH FL 33425-0310 USA

Ship to Customer:

BOYNTON BEACH CITY OF
PO BOX 310
PURCHASING DEPARTMENT
BOYNTON BEACH FL 33425-0310

Salesman: HERRON BROCK
Terms: NET 30 DAYS

Effective Date: 5/04/17
Expiration Date: 4/30/18

Line	Description	Quantity	U/M	US Dollar Unit Price
1	Part#: SSX46XXXXXXXXX SAAS W/SFTWR RNI 3.X >35K WTR RNI 3.X >35K SERVICES WATER YEAR 1	1	EA	38,512.210
2	Part#: MS RNI SAAS ANNUAL RNI SAAS FEE YEAR 2	1	EA	39,667.580
3	Part#: MS RNI SAAS ANNUAL RNI SAAS FEE YEAR 3	1	EA	40,857.600
4	Part#: MS RNI SAAS ANNUAL RNI SAAS FEE YEAR 4	1	EA	42,083.330
5	Part#: MS RNI SAAS ANNUAL RNI SAAS FEE YEAR 5	1	EA	43,345.830
6	Part#: MS SU RNI SAAS1 SETUP RNI SAAS FEE 0-34,999 WTR/GAS	1	EA	.000

This Quotation is an offer to sell which includes and is subject to the Sensus Metering Systems Terms of Sale available for viewing and downloading at http://www.sensus.com/tc Please contact Customer Service at 1-800-638-3748 if you are unable to access this site and require a printed copy of the Terms of Sale.

450 North Gallatin Avenue
P.O. Box 487
Uniontown, PA 15221 USA

1-800-Meterit
1-800-638-3748
www.sensus.com

Your Quote Number: 28578

US Dollar

Line	Description	Quantity	U/M	Unit Price
7	Part#: 5396383700535F SENSUS WTR ANALYTICS ENHANCED >35K ANNUAL FEE	1	EA	32,335.310
8	Part#: 5396383700535F SENSUS WTR ANALYTICS ENHANCED >35K ANNUAL FEE	1	EA	33,305.370
9	Part#: 5396383700535F SENSUS WTR ANALYTICS ENHANCED >35K ANNUAL FEE	1	EA	34,304.530
10	Part#: 5396383700535F SENSUS WTR ANALYTICS ENHANCED >35K ANNUAL FEE	1	EA	35,333.670
11	Part#: 5396383700535F SENSUS WTR ANALYTICS ENHANCED >35K ANNUAL FEE	1	EA	36,393.680
12	Part#: 5396383700521A SEN ANLYTCS SYSTEM SETUP WATER <5K SENSUS RNI CUSTOMER	1	EA	2,000.000
13	Part#: PS SA CUSTOM SENSUS ANALYTICS CUSTOM BILLNG INTEGRATION FEE	1	EA	5,000.000
14	Part#: SA WTR CP 1.5 WTR CONSUMER PORTAL <1500 ANNL ANNUAL USE FEE 0-1500 YEAR 1	1	EA	6,250.000
15	Part#: SA WTR CP 1.5 WTR CONSUMER PORTAL <1500 ANNL ANNUAL USE FEE 0-1500 YEAR 2	1	EA	6,437.500
16	Part#: SA WTR CP 1.5 WTR CONSUMER PORTAL <1500 ANNL ANNUAL USE FEE 0-1500	1	EA	6,630.630

This Quotation is an offer to sell which includes and is subject to the Sensus Metering Systems Terms of Sale available for viewing and downloading at http://www.sensus.com/tc Please contact Customer Service at 1-800-638-3748 if you are unable to access this site and require a printed copy of the Terms of Sale.

450 North Gallatin Avenue
P.O. Box 487
Uniontown, PA 15221 USA

1-800-Meterit
1-800-638-3748
www.sensus.com

Your Quote Number: 28578

US Dollar

Line	Description	Quantity	U/M	Unit Price
	YEAR 3			
17	Part#: SA WTR CP 1.5 WTR CONSUMER PORTAL <1500 ANNL ANNUAL USE FEE 0-1500	1	EA	6,829.540
	YEAR 4			
18	Part#: SA WTR CP 1.5 WTR CONSUMER PORTAL <1500 ANNL ANNUAL USE FEE 0-1500	1	EA	7,034.430
	YEAR 5			
19	Part#: SA WTR CP OVRG WTR CONSUMER PORTL OVERAGE FEE	1	EA	2.400
20	Part#: SA SU WTR CP WTR CONSUMER PORTAL SET UP FEE WITH SENSUS ANALYTICS	1	EA	5,000.000
21	Part#: PS SA CP CIS SENSUS ANALYTICS CONSUMER PORT CIS INTEGRATION FEE	1	EA	11,000.000
22	Part#: PS SA CP TRAIN SENSUS ANALYTICS CONSUMR PORTL TRAINING	1	EA	2,000.000

BOYNTON BEACH HAS 35,319 SERVICES.

BOYNTON BEACH TO INCLUDE P.O. NUMBERS FOR BILLING ON YEARS 2 - 5 FOR ANNUAL FEES THAT WILL BE BILLED AUTOMATICALLY WITH INCREASES YEARLY AS QUOTED.

MOVING FROM LOGIC MDM TO SA ENHANCED.

FULL FREIGHT ALLOWED.
FOB SHIPPING POINT.

CASE - 00507230

This Quotation is an offer to sell which includes and is subject to the Sensus Metering Systems Terms of Sale available for viewing and downloading at http://www.sensus.com/tc Please contact Customer Service at 1-800-638-3748 if you are unable to access this site and require a printed copy of the Terms of Sale.

450 North Gallatin Avenue
P.O. Box 487
Uniontown, PA 15221 USA

1-800-Meterit
1-800-638-3748
www.sensus.com

Your Quote Number: 28578

US Dollar

Line	Description	Quantity	U/M	Unit Price
	PROJECT CODE - WAKG			

IF MODIFICATIONS IN METER MATERIALS OR PROCESSING ARE REQUIRED TO MEET NEW REGULATIONS, THE PRICING SUBMITTED IS SUBJECT TO IMMEDIATE CHANGE
Thank you for your interest in quality products by Sensus.
Current as of: 5/05/17

Correspondence:
SENSUS
207 WINDMERE DRIVE
BOWLING GREEN, KY 42103

Purchase Orders:
SENSUS
PO BOX 487
UNIONTOWN, PA 15401
sensus.orders@sensus.com
PHONE: 800-METER-IT
800-638-3748

ROBERT WHITTAKER Regional Sales Manager

This Quotation is an offer to sell which includes and is subject to the Sensus Metering Systems Terms of Sale available for viewing and downloading at http://www.sensus.com/lc Please contact Customer Service at 1-800-638-3748 if you are unable to access this site and require a printed copy of the Terms of Sale.

Exhibit D
Statement of Work

I. General Responsibilities.

a. Sensus will:

1. Conduct a propagation study to determine the locations best suited for installation of the FlexNet Base Stations and to ensure proper communications with end point transmitters and the RNI.

b. Customer will:

1. Provide a key point of contact to work with Sensus to help facilitate a timely installation of the FlexNet system.
2. Provide Sensus a map of its Service Territory with latitude and longitude ("lat/lon") coordinates of its Service Territory boundaries, a list of meter locations, and a list of preferred Customer tower locations.
3. Work with Sensus to develop a shipping schedule to include network and metering components for the Sensus AMI System. The shipping schedule will be updated at least quarterly, but may be updated on a more frequent basis as implementation proceeds. The shipping schedule shall identify each geographic area of the deployment, the specific locations of meters (street addresses and/or lat/lon if available) in that area, and the estimated date of installation in that area. The plan shall estimate the number of meters by Sensus part number and form type to be installed for each quarter of the project until completion.
4. Be responsible for monthly fees associated with the network access for all sites where network access is needed.
5. Provide communications link (high speed DSL is preferred) between the RNI and the FlexNet Base Station. One of the following should be used to access these components: (i) Cisco VPN; (ii) Open VPN Connection; or (iii) SSH access via port 22 to Linux NC. If Customer is providing SSH access, Port 22 on the firewall must be opened and redirected to the internal IP address of the Sensus RNI.
6. Purchase any routers, hubs, mounting equipment, uninterruptible power supply and/or security equipment needed to connect the RNI to Customer's internal network.
7. Be responsible for the payment of any taxes, renewal, regulatory or license fees associated with the network hardware and software.
8. Be responsible for applying for and purchasing any needed work permits.

II. FlexNet Base Station Site Responsibilities

a. Sensus will:

1. Determine the correct FlexNet Base Station configuration for the project. FlexNet Base Stations are available in three configurations: indoor, outdoor and rack mounted.
2. Identify and hire a qualified installation team to install and commission the FlexNet Base Station equipment and make final end connections to the equipment for an agreed upon installation fee.
3. Provide the FlexNet Base Station and antennae sufficient to receive meter data and provide the meter data to the RNI via Customer's provided network.
4. Provide the following equipment for the FlexNet Base Station installation: (a) Antel BCD-87010 Omni Directional Antenna or appropriate panel antenna as required, (b) up to 400 feet of 7/8" coaxial cable per FlexNet Base Station location, (c) N/F connectors for 7/8" coaxial cable required for antenna installation connection, (d) jumpers required to attached antenna to coax and to FlexNet Base Station (length of Jumper to be determined by individual site), (e) RF Polyphaser surge current arrestor, (f) grounding Kits for 7/8" coaxial cable, (g) #6 stranded grounding wire for grounding FlexNet Base Station Cabinet, (h) antenna mount and standoff for antenna installation, (i) hoisting grips to install coaxial cable and to support coax cable, (j) equipment required to pickup, transport and install FlexNet Base Station on Platform, and k) one (1) hoisting grip per coax cable and hangars as needed.
5. Have access to a ground field (supplied by Customer) to properly ground the FlexNet Base Station and antenna equipment.
6. Mount the FlexNet Base Station cabinet (if needed) to the structure provided and identified by Customer.
7. Make all data and power terminal, and antennae connections at the FlexNet Base Station Cabinet. This includes the connection from the power source (supplied by Customer) and connection of the CAT 5 data line (supplied by Customer) from the network access point at the site.
8. Provide all strapping hardware needed to run the data and power cables from the base of the FlexNet Base Station site to the antennae if needed.
9. Install the antenna at an agreed-upon location on the antenna structure.
10. Provide and install Andrew 7/8" coaxial cable from each FlexNet Base Station location to antenna mount location. Coax will be installed on the appropriate leg of tower or mounting structure.
11. Provide and install antenna mount with a 3 foot stand-off for the antenna installation.
12. Mount the Sensus provided Antel BCD-87010 or appropriate panel antenna for installation.
13. Install the Sensus provided RF Polyphaser and bond it to the ground buss entry location.
14. Install a 6 foot jumper from polyphaser entry port of FlexNet Base Station duplexer.
15. Ground the FlexNet Base Station to common ground with appropriate #6 ground wire and appropriate ground lugs.
16. Program and commission the FlexNet Base Station for proper operation.
17. Sweep the antenna and coax line to ensure conformance to Sensus' published specifications.
18. Perform drive-by testing to verify coverage.
19. Not be held responsible for damage to any interior/exterior coatings on water tanks that result from welding of antenna mounts to tanks. Parties will agree to a scope of work prior to installation.

b. Customer will:

1. Provide an area at the FlexNet Base Station site for installation if the FlexNet Base Station is to be installed at a Customer provided site and prepare the site as follows:
    A. The site must have a network connection available for the FlexNet Base Station to communicate with RNI. Suggested communications methods are Ethernet, DSL, Microwave and wireless. The Ethernet connector on the FlexNet Base Station unit is an RJ-45 type, 10/100 auto signaling rate. Minimum WAN bandwidth requirements are 128 kbps with a redundant path. Any network equipment to interface the FlexNet Base Station such as Juniper router / firewall, switches, etc. will be Customer provided.
    B. Customer will supply connectivity information to Sensus (IP address, default gateway, sub-net mask, etc.).
    C. Provide suitable antenna mounting structure such as a tower, mono-pole, or building that is capable of supporting the weight of the antenna, cable, mounting hardware and wind loading.
    D. An Indoor site should have adequate room for the rack facilitating opening of both front and rear doors, and an available 120V grounded outlet within 10

feet.

E. An Outdoor site installation single phase 240 VAC 30 amp circuit from Meter bank to disconnect panel on FlexNet Base Station.

F. An Outdoor site shall have installation of FlexNet Base Station concrete support pad or suitable steel support structure with a minimum loading capacity of 600lb./ sq.inch.

G. An Indoor site should have adequate environmental control/ventilation. Recommended environmental ranges are shown in Appendix A of the Tower Gateway Base Station Installation Manual. Although the unit is capable of operation in extreme temperatures, maintaining a moderate and constant temperature environment will promote trouble-free service and long life.

H. The site must have all RF and power connections properly surge arrested to prevent damage in the event of a major lightning strike. A Halo type building ground installation with a tie available to connect to the rack ground bar is recommended; Motorola R-85 grounding specification preferred.

I. Customer to supply a cable bridge between the antenna mounting structure and the indoor/outdoor FlexNet Base Station site if and as needed.

J. For each outdoor basestation that is required at your location, you are responsible to provide two (2) additional ports on your LAN and one (1) additional port for each indoor basestation

2. Provide the necessary trenching of the power line, conduit, and cabling needed to supply power from the power source outlet to the base station cabinet. All electrical equipment will be installed in accordance with local codes.
3. Provide network access at the site where the FlexNet Base Station is to be installed. Customer should consult with a Sensus representative regarding the available options for network connections between FlexNet Base Station and RNI.
4. Provide CAT 5 UV and weather resistant network cable from the network service provider access link to the cabinet.
5. Provide any conduit or trenching needed to run the data cable to the FlexNet Base Station. Customer is responsible to assure that data cable is located within 1 foot of the final location of the FlexNet Base Station.
6. Provide padlocks at each FlexNet Base Station location for security purposes.
7. Install grounding material at the location of the FlexNet Base Station installation. At a minimum, the material should consist of # 4 or #2 stranded copper wire which will connect to the FlexNet Base Station.
8. Provide access to a proper ground field at the FlexNet Base Station site to enable Sensus to properly ground the FlexNet Base Station and antenna equipment.
9. Be responsible for getting access/permission to any structure that is not owned by Customer.

III. Echo Transceiver / Remote Transceiver Responsibilities

a. Sensus will:

1. Provide mounting brackets for installation.
2. Identify the optimum location to install the Echo Transceiver/Remote Transceiver and communicate those locations to Customer.
3. Echo Transceiver/Remote Transceiver locations will be identified only after sufficient FlexNet Base Stations and endpoints have been installed and it is apparent that additional infrastructure in the form of Echo Transceivers/Remote Transceivers is required to optimize system performance.

b. Customer will:

1. Provide a 120 VAC power source and cable run, in compliance with local code, to the point where each Echo Transceiver/Remote Transceiver will be installed to supply all necessary power requirements. These boxes can be installed on top of poles, buildings, etc. For such cable runs, 18 AWG UV and weather resistant power cable for runs less than 470 ft. and 16 AWG for runs less than 750 ft. are needed.
2. Install the Echo Transceiver/Remote Transceiver units and ancillary equipment necessary to a structure.
3. Initiate, coordinate and acquire authorization for installation crews to climb poles, buildings and other structures necessary to safely affix cable runs as needed for the installation of the Echo Transceivers/Remote Transceivers.
4. Provide adequate electricity to the Echo Transceiver/Remote Transceiver locations and be responsible for any and all recurring electricity charges for Echo Transceiver/Remote Transceiver operations.
5. Be responsible for on-going maintenance and support of the equipment after installation.

IV. Endpoints & Field Installation Responsibilities

a. Customer will:

1. Purchase Endpoints. "Endpoint", in this Exhibit only, means a Sensus meter or a Sensus SmartPoint Module installed on a third party meter.
2. Customer is responsible for the safe installation of the Endpoints. For electricity products, Customer shall first test and confirm that each socket to which a Network Device will be/is connected is in safe operating condition, is fully functional, is not corroded, does not contain improperly installed jaws or other deficiencies, complies with ANSI standards, and is not "hot", damaged, or otherwise in need of maintenance or repair.
3. Install or hire a qualified installation contractor to install all Endpoints to be used in the AMI System.
4. Be responsible for quality assurance for their personnel and/or an installation contractor as it relates to proper installation of Endpoints.
5. Visit and troubleshoot Endpoints that are not reporting into the system. Investigate any non-reporting Endpoints to ensure that there are no cut wires, improper installations, improper programming and resolve all data entry errors in the system.
6. Assign an internal and/or installation contractor auditor to ensure installation work is correct. Sensus will train this individual to properly identify and correct any known problems in the field. This individual will be the primary contact to troubleshoot, identify and correct non reporting Endpoints and installation errors.
7. Once the installer has completed troubleshooting of installation issues, Sensus will investigate the remaining Endpoints to identify and fix any coverage issues.
8. Coordinate with Sensus to establish the Endpoints installation schedule, shipment quantities, and overall project timeline.
9. Be responsible to rent or purchase approved handheld programming devices in sufficient quantities to meet the demands of the installers.

Exhibit E
Product Warranties
(see attached)

Sensus Limited Warranty

I. General Product Coverage

Sensus USA Inc. ("Sensus") warrants its products and parts to be free from defects in material and workmanship for one (1) year from the date of Sensus shipment and as set forth below. All products are sold to customer ("Customer") pursuant to Sensus' Terms of Sale, available at: sensus.com/TC ("Terms of Sale").

II. SR II® and accuSTREAM ™5/8", 3/4" & 1" Meters...

are warranted to perform to AWWA New Meter Accuracy Standards for five (5) years from the date of Sensus shipment or until the registration shown below, whichever occurs first. Sensus further warrants that the SR II and accuSTREAM meters will perform to at least AWWA Repaired Meter Accuracy Standards for fifteen (15) years from the date of Sensus shipment or until the registration shown below, whichever occurs first:

	New Meter Accuracy	Repair Meter Accuracy
5/8" SR II Meter and accuSTREAM Meter	500,000 gallons	1,500,000 gallons
3/4" SR II Meter and accuSTREAM Meter	750,000 gallons	2,250,000 gallons
1" SR II Meter and accuSTREAM Meter	1,000,000 gallons	3,000,000 gallons

III. SR® 5/8", 3/4" & 1" Meters...

are warranted to perform to AWWA New Meter Accuracy Standards for one (1) year from the date of Sensus shipment. Sensus further warrants that the 5/8", 3/4" and 1" SR meter will perform to at least AWWA Repaired Meter Accuracy Standards for fifteen (15) years from the date of Sensus shipment or until the registration shown below, whichever occurs first:

	Repair Meter Accuracy
5/8" SR Meter	1,500,000 gallons
3/4" SR Meter	2,250,000 gallons
1" SR Meter	3,000,000 gallons

IV. SR 1-1/2" & 2"...

are warranted to perform to AWWA New Meter Accuracy Standards for one (1) year from the date of Sensus shipment. Sensus further warrants that the 1-1/2" and 2" SR meter will perform to at least AWWA Repaired Meter Accuracy Standards for ten (10) years from the date of Sensus shipment or until the registration shown below, whichever occurs first:

	Repair Meter Accuracy
1-1/2" SR	5,000,000 gallons
2" SR	8,000,000 gallons

V. PMM® 5/8", 3/4", 1" Meters...

are warranted to perform to AWWA New Meter Accuracy Standards for one (1) year from the date of Sensus shipment. Sensus further warrants that the 5/8", 3/4", and 1" PMM meter will perform to at least AWWA Repaired Meter Accuracy Standards for fifteen (15) years from the date of Sensus shipment or until the registration shown below, whichever occurs first:

	Repair Meter Accuracy
5/8" PMM	1,500,000 gallons
3/4" PMM	2,000,000 gallons
1" PMM	3,000,000 gallons

VI. PMM 1-1/2", 2" Meters...

are warranted to perform to AWWA New Meter Accuracy Standards for one (1) year from the date of Sensus shipment. Sensus further warrants that the 1-1/2", and 2" PMM meter will perform to at least AWWA Repaired Meter Accuracy Standards for ten (10) years from the date of Sensus shipment or until the registration shown below, whichever occurs first:

	Repair Meter Accuracy
1-1/2" PMM	5,000,000 gallons
2" PMM	8,000,000 gallons

VII. IPERL™ Water Management Systems...

that register water flow are warranted to perform to the accuracy levels set forth in the iPERL Water Management System Data Sheet available at sensus.com/iperl/datasheet or by request from 1-800-METER-IT, for twenty (20) years from the date of Sensus shipment. The IPERL System warranty does not include the external housing.

VIII. Maincase...

of the SR, SR II and PMM in both standard and low lead alloy meters are warranted to be free from defects in material and workmanship for twenty-five (25) years from the date of Sensus shipment. Composite and E-coated maincases will be free from defects in material and workmanship for fifteen (15) years from the date of Sensus shipment.

IX. Sensus "W" Series Turbo Meters, OMNI™ Meters and Propeller Meters...

are warranted to perform to AWWA New Meter Accuracy Standards for one (1) year from the date of Sensus shipment.

X. Sensus accuMAG™ Meters...

are warranted to be free from defects in material and workmanship, under normal use and service, for 18 months from the date of Sensus shipment or 12 months from startup, whichever occurs first.

XI. Sensus Registers...

are warranted to be free from defects in material and workmanship from the date of Sensus shipment for the periods stated below or until the applicable registration for AWWA Repaired Meter Accuracy Standards, as set forth above, are surpassed, whichever occurs first:

5/8" thru 2" SR, SR II, PMM, accuSTREAM Standard Registers	25 years
5/8" thru 2" SR, SR II, PMM, accuSTREAM Encoder Registers	10 years
Electronic Communication Index (ECI)	10 years
All HSPU, IMP Contactor, R.E.R. Elec. ROFI	1 year
Standard and Encoder Registers for:"W" Turbo and Propeller Meters	1 year
OMNI Register with Battery	10 years

XII. Sensus Electric Meters...

are warranted to be free from defects in material and workmanship for one (1) year from the date of Sensus shipment. Spare parts and components are warranted to be free from defects in material and workmanship for one (1) year from the date of Sensus shipment.

Repaired or refurbished equipment repaired by Sensus is warranted to be free from defects in material and workmanship for ninety (90) days from the date of Sensus shipment or for the time remaining on the original warranty period, whichever is longer.

XIII. Batteries, IPERL System Components, AMR and FlexNet™ System AMI Interface Devices...

are warranted to be free from defects in material and workmanship from the date of Sensus shipment for the period stated below:

Electronic TouchPad	10 years
RadioRead® MXU (Model 505C, 510R or 520R) and Batteries	20 years*
Act-Pak® Instrumentation	1 year
TouchRead® Coupler and AMR Equipment	1 year
FlexNet Water or Gas SmartPoint™ Modules and Batteries	20 years*
5500 series (or older) Hand Held Device	1 year
6500 series Hand Held Device	2 years
Vehicle Gateway Base Station	1 year
FlexNet Base Station (including the Metro and M400 base stations)	1 year
Echo Transceiver	1 year
Remote Transceiver	1 year
iConA and FlexNet Electricity SmartPoint Module	1 year
IPERL System Battery and iPERL System Components	20 years*
Residential Electronic Register	20 years*
Smart Gateway	1 year

* Sensus will repair or replace non-performing:

- RadioRead® MXU (Model 505C, 510R and 520R) and Batteries,
- FlexNet Water or Gas SmartPoint Modules (configured to the factory setting of six transmissions per day under normal system operation of up to one demand read to each SmartPoint Module per month and up to two firmware downloads during the life of the product) and batteries,
- Residential Electronic Register with hourly reads, and
- iPERL System Batteries, and/or the IPERL System flowtube, the flow sensing and data processing assemblies, and the register ("iPERL System Components") with hourly reads

at no cost for the first ten (10) years from the date of Sensus shipment, and for the remaining ten (10) years, at a prorated percentage, applied towards the published list prices in effect for the year product is accepted by Sensus under warranty conditions according to the following schedule:

Years	Replacement Price	Years	Replacement Price
1 – 10	0%	16	55%
11	30%	17	60%
12	35%	18	65%
13	40%	19	70%
14	45%	20	75%
15	50%	>20	100%

Note: Software supplied and licensed by Sensus is warranted according to the terms of the applicable software license agreement. Sensus warrants that network and monitoring services shall be performed in a professional and workmanlike manner.

XIV. Return...

Sensus' obligation, and Customer's exclusive remedy, under this Sensus Limited Warranty is, at Sensus' option, to either (i) repair or replace the product, provided the Customer (a)

returns the product to the location designated by Sensus within the warranty period; and (b) prepays the freight costs both to and from such location; or (II) deliver replacement components to the Customer, provided the Customer installs, at its cost, such components in or on the product (as instructed by Sensus), provided, that if Sensus requests, the Customer (a) returns the product to the location designated by Sensus within the warranty period; and (b) prepays the freight costs both to and from such location. In all cases, if Customer does not return the product within the time period designated by Sensus, Sensus will invoice, and Customer will pay within thirty days of the invoice date, for the cost of the replacement product and/or components.

The return of products for warranty claims must follow Sensus' Returned Materials Authorization (RMA) procedures. Water meter returns must include documentation of the Customer's test results. Test results must be obtained according to AWWA standards and must specify the meter serial number. The test results will not be valid if the meter is found to contain foreign materials. If Customer chooses not to test a Sensus water meter prior to returning it to Sensus, Sensus will repair or replace the meter, at Sensus' option, after the meter has been tested by Sensus. The Customer will be charged Sensus' then current testing fee. Sensus SmartPoints modules and MXU's returned must be affixed with a completed return evaluation label. For all returns, Sensus reserves the right to request meter reading records by serial number to validate warranty claims.

For products that have become discontinued or obsolete ("Obsolete Product"), Sensus may, at its discretion, replace such Obsolete Product with a different product model ("New Product"), provided that the New Product has substantially similar features as the Obsolete Product. The New Product shall be warranted as set forth in this Sensus Limited Warranty.

THIS SECTION XIV SETS FORTH CUSTOMER'S SOLE REMEDY FOR THE FAILURE OF THE PRODUCTS, SERVICES OR LICENSED SOFTWARE TO CONFORM TO THEIR RESPECTIVE WARRANTIES.

XV. Warranty Exceptions and No Implied Warranties...

This Sensus Limited Warranty does not include costs for removal or installation of products, or costs for replacement labor or materials, which are the responsibility of the Customer. The warranties in this Sensus Limited Warranty do not apply to goods that have been: installed improperly or in non-recommended installations; installed to a socket that is not functional, or is not in safe operating condition, or is damaged, or is in need of repair; tampered with; modified or repaired with parts or assemblies not certified in writing by Sensus, including without limitation, communication parts and assemblies; improperly modified or repaired (including as a result of modifications required by Sensus); converted; altered; damaged; read by equipment not approved by Sensus; for water meters, used with substances other than water, used with non-potable water, or used with water that contains dirt, debris, deposits, or other impurities; subjected to misuse, improper storage, improper care, improper maintenance, or improper periodic testing (collectively, "Exceptions."). If Sensus identifies any Exceptions during examination, troubleshooting or performing any type of support on behalf of Customer, then Customer shall pay for and/or reimburse Sensus for all expenses incurred by Sensus in examining, troubleshooting, performing support activities, repairing or replacing any Equipment that satisfies any of the Exceptions defined above. The above warranties do not apply in the event of Force Majeure, as defined in the Terms of Sale.

THE WARRANTIES SET FORTH IN THIS SENSUS LIMITED WARRANTY ARE THE ONLY WARRANTIES GIVEN WITH RESPECT TO THE GOODS, SOFTWARE LICENSES AND SERVICES SOLD OR OTHERWISE PROVIDED BY SENSUS. SENSUS EXPRESSLY DISCLAIMS ANY AND ALL OTHER REPRESENTATIONS, WARRANTIES, CONDITIONS, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE, REGARDING ANY MATTER IN CONNECTION WITH THIS SENSUS LIMITED WARRANTY OR WITH THE TERMS OF SALE, INCLUDING WITHOUT LIMITATION, WARRANTIES AS TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, NON-INFRINGEMENT AND TITLE.

SENSUS ASSUMES NO LIABILITY FOR COSTS OR EXPENSES ASSOCIATED WITH LOST REVENUE OR WITH THE REMOVAL OR INSTALLATION OF EQUIPMENT. THE FOREGOING REMEDIES ARE CUSTOMER'S SOLE AND EXCLUSIVE REMEDIES FOR THE FAILURE OF EQUIPMENT, LICENSED SOFTWARE OR SERVICES TO CONFORM TO THEIR RESPECTIVE WARRANTIES.

XVI. Limitation of Liability...

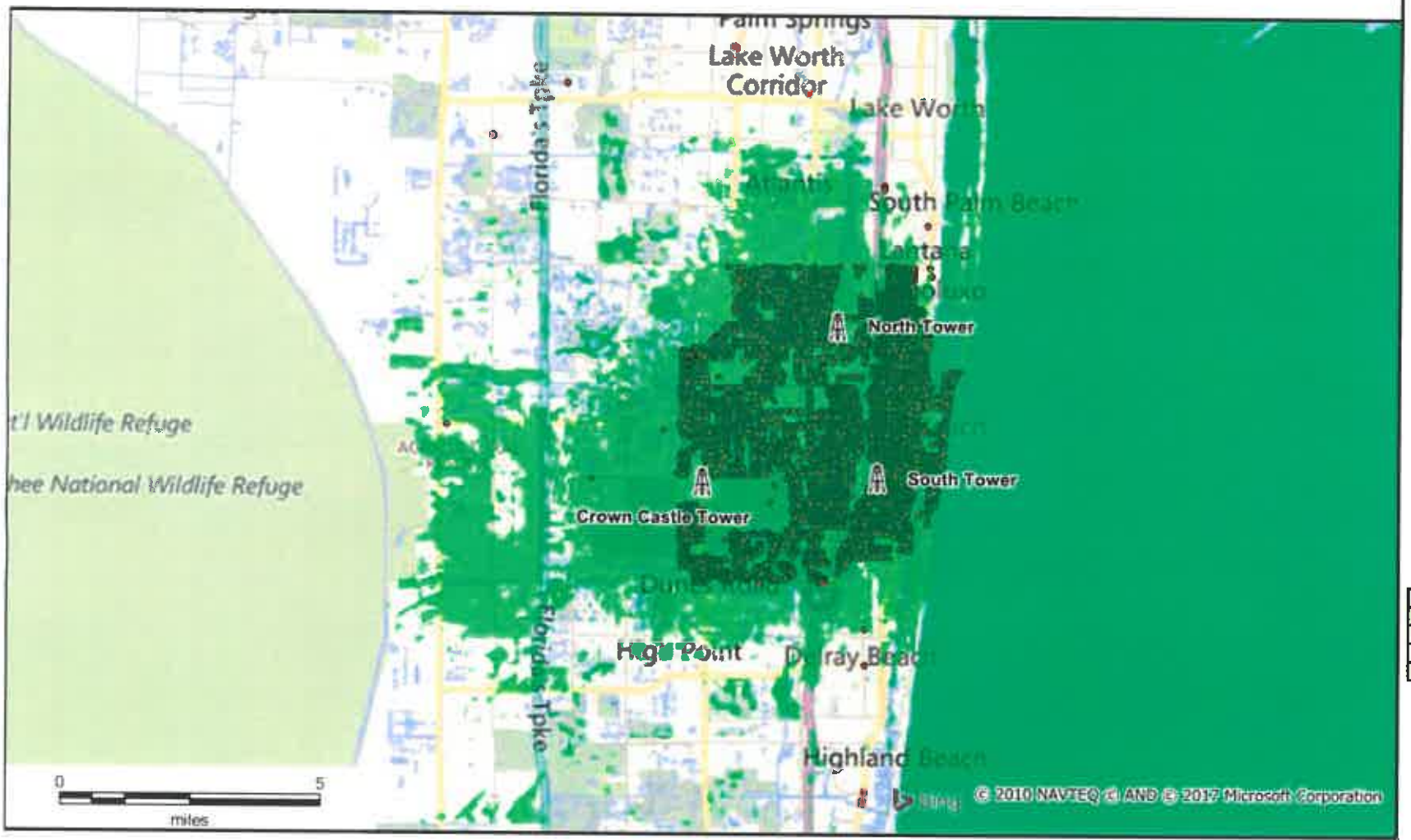
SENSUS' AGGREGATE LIABILITY IN ANY AND ALL CAUSES OF ACTION ARISING UNDER, OUT OF OR IN RELATION TO THIS AGREEMENT, ITS NEGOTIATION, PERFORMANCE, BREACH OR TERMINATION (COLLECTIVELY "CAUSES OF ACTION") SHALL NOT EXCEED THE TOTAL AMOUNT PAID BY CUSTOMER TO SENSUS UNDER THIS AGREEMENT. THIS IS SO WHETHER THE CAUSES OF ACTION ARE IN TORT, INCLUDING, WITHOUT LIMITATION, NEGLIGENCE OR STRICT LIABILITY, IN CONTRACT, UNDER STATUTE OR OTHERWISE.

AS A SEPARATE AND INDEPENDENT LIMITATION ON LIABILITY, SENSUS' LIABILITY SHALL BE LIMITED TO DIRECT DAMAGES. SENSUS SHALL NOT BE LIABLE FOR: (I) ANY INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES; NOR (II) ANY REVENUE OR PROFITS LOST BY CUSTOMER OR ITS AFFILIATES FROM ANY END USER(S), IRRESPECTIVE OF WHETHER SUCH LOST REVENUE OR PROFITS IS CATEGORIZED AS DIRECT DAMAGES OR OTHERWISE; NOR (III) ANY IN/OUT COSTS; NOR (IV) MANUAL METER READ COSTS AND EXPENSES; NOR (V) DAMAGES ARISING FROM MAINCASE OR BOTTOM PLATE BREAKAGE CAUSED BY FREEZING TERMPERATURES, WATER HAMMER CONDITIONS, OR EXCESSIVE WATER PRESSURE. "IN/OUT COSTS" MEANS ANY COSTS AND EXPENSES INCURRED BY CUSTOMER IN TRANSPORTING GOODS BETWEEN ITS WAREHOUSE AND ITS END USER'S PREMISES AND ANY COSTS AND EXPENSES INCURRED BY CUSTOMER IN INSTALLING, UNINSTALLING AND REMOVING GOODS. "END USER" MEANS ANY END USER OF ELECTRICITY/WATER/GAS THAT PAYS CUSTOMER FOR THE CONSUMPTION OF ELECTRICITY/WATER/GAS, AS APPLICABLE.

The limitations on liability set forth in this Agreement are fundamental inducements to Sensus entering into this Agreement. They apply unconditionally and in all respects. They are to be interpreted broadly so as to give Sensus the maximum protection permitted under law.

To the maximum extent permitted by law, no Cause of Action may be instituted by Customer against Sensus more than TWELVE (12) MONTHS after the Cause of Action first arose. In the calculation of any damages in any Cause of Action, no damages incurred more than TWELVE (12) MONTHS prior to the filing of the Cause of Action shall be recoverable.

Exhibit F
Propagation Analysis
(See attached)



FlexNet Design

Propagation Analysis

5692 – City of Boynton Beach

Boynton Beach, FL

RF Engineer: Dave Konecny
Date: 05/08/2017
Version:6

Crown Castle Tower
North Tower
South Tower

FSK: 13 HR
Meter Type: Water
Smart point Location: Pitset
Attenuation applied due to Smart point Location: 5 dB

Category	Meters
Covered	34,165
Not_Covered	81
Meters_Read_@_Contract_RIS_Rate	33,652
Total_Meters_Analyzed	*34,246*

LEGEND:

- Area of Coverage
- Base Station
- Meter

This propagation study is based on actual information provided by the utility pertaining to meter type, Smart point Location, potential antennae height on structure, structure height, and structure location. Any changes, deletions and/or additions that are not provided to the design engineers during the creation of this design may result in a study that does not correlate to actual field conditions.

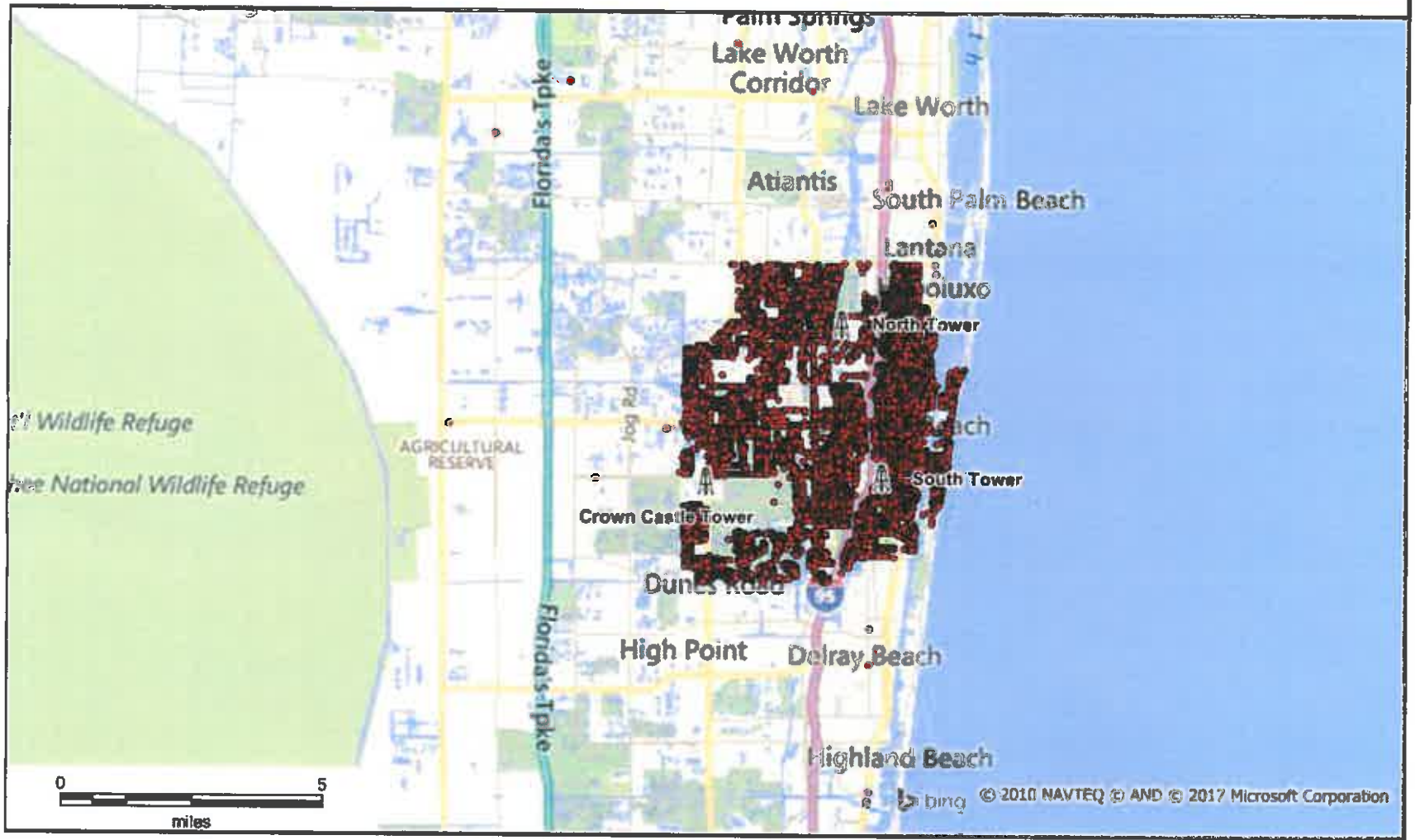
For all tower mounted antennas, a minimum antenna standoff of 3' is required from the tower.

SENSUS
a xylem brand

FlexNet Design

Base station and Meter Locations

5692 – City of Boynton Beach
Boynton Beach, FL



LEGEND:

Base Station

This propagation study is based on actual information provided by the utility pertaining to meter type, Smart point Location, potential antennae height on structure, structure height, and structure location. Any changes, deletions and/or additions that are not provided to the design engineers during the creation of this design may result in a study that does not correlate to actual field conditions.

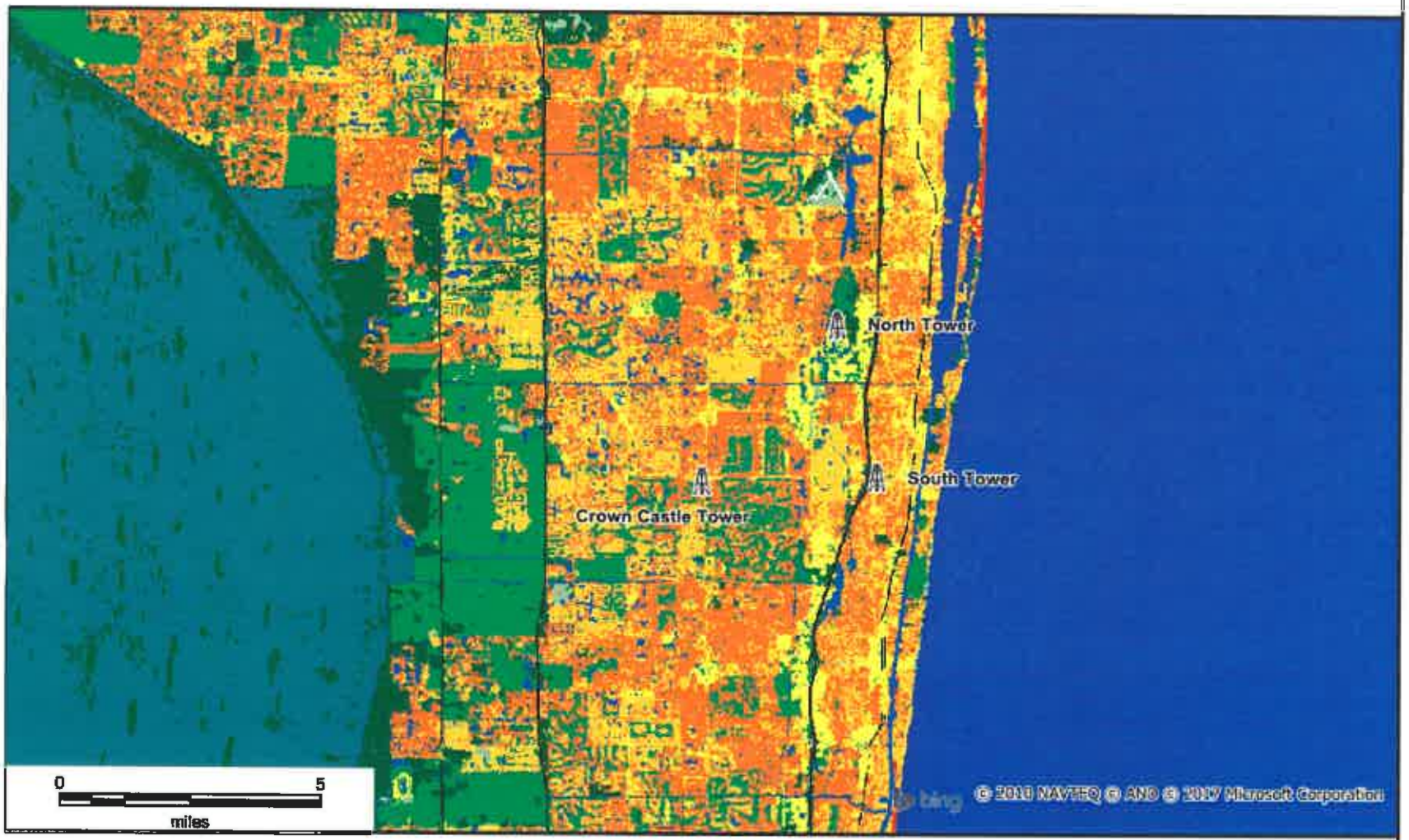
For all tower mounted antennas, a minimum antenna standoff of 3' is required from the tower.

sensus
a xylem brand

FlexNet Design

Base station and Clutter

5692 – City of Boynton Beach
Boynton Beach, FL



LEGEND:

- Base Station
- High Density Urban
- Commercial - Industrial
- Suburban Few Trees
- Suburban With Trees
- Airports
- Major Transportation
- Open
- Grass - Agriculture
- Forest
- Wetland
- Inland Water
- Sea Water

This propagation study is based on actual information provided by the utility pertaining to meter type, Smart point Location, potential antennae height on structure, structure height, and structure location. Any changes, deletions and/or additions that are not provided to the design engineers during the creation of this design may result in a study that does not correlate to actual field conditions.

For all tower mounted antennas, a minimum antenna standoff of 3' is required from the tower.

sensus
a xylem brand

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-111 - Approve an Agreement with Caler, Donten, Levine, Porter & Veil, P.A. of West Palm Beach, FL for Financial Auditing Services for the City of Boynton Beach for the fiscal years ending September 30, 2017, September 30, 2018, and September 30, 2019, with audit fees for each fiscal year of $106,725, $106,725 and $106,725, respectively, in the three-year total amount of $320,175, RFP #072-1410-17/IT.

EXPLANATION OF REQUEST:
On September 22, 2017, the City opened and tabulated eight (8) proposals to our RFP #072-1410-17/IT for Financial Auditing Services. An Audit Committee was approved by the City Commission on October 18, 2011 comprised of the Director of Financial Services, Deputy Director of Financial Services and Budget Manager for the purpose of reviewing proposals and recommending a CPA firm to conduct the annual audit of the City's financial statements.

The Audit Committee evaluated the proposals, including compensation as one of the factors, in accordance with F.S. 218.391 compensation was not the sole or predominant factor used in evaluating the proposals. The Committee independently ranked the proposals based on evaluation criteria outlined in the RFP. In a publicly noticed evaluation meeting held on October 18, 2017, the Committee revealed and discussed their scoring. The scores were tabulated by Purchasing Services to arrive at the final score for each firm and the final overall ranking.

The Committee ranked the proposals as follows:

Rank 1: Caler, Donten, Levine, Porter & Veil, P.A.
Rank 2: Marcum LLP
Rank 3: Grau & Associates
Rank 4: Templeton & Company, LLP
Rank 5: S. Davis & Associates, CPA
Rank 6: Keefe McCullough
Rank 7: Rehmann Robson
Rank 8: HCT Certified Public Accountants, LLC

The committee's recommendation is to award the contract to Caler, Donten, Levine, Porter & Veil, P.A. as the highest-ranked qualified firm.

Previous fiscal years' audit fees were:
FYE 09/30/16 - $106,700;
FYE 09/30/15 - $104,600;
FYE 09/30/14 - $102,500

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
The purpose of this RFP is to secure the services of an independent certified public accounting firm to provide external independent auditing services to the City for an initial term of three (3) years, for the fiscal

years ending September 30 2017 through 2020, with two (2) optional two (2) year renewal terms, in the total potential contract term of seven (7) years. The auditor will express an opinion on the fair presentation of the City's financial statements as a result of the annual audit. In addition, they will perform a single audit, if required, on federal and state grants received by the City. The Auditor General of the State of Florida requires an annual audit to be performed each year.

FISCAL IMPACT: Budgeted
The City's FY18 Adopted budget includes sufficient funding for the initial year of this contract. Subsequent years' fees will be included in the appropriate budget cycles. The total costs for the initial three (3) year agreement is $320,175.00.

ALTERNATIVES:
In accordance with F.S. 218.391 (4) (b) since compensation was one of the factors used by the Committee in evaluation of proposals, the governing body shall select the highest-ranked qualified firm or must document in its public record the reason for not selecting the highest-ranked qualified firm.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Resolution	Resolution approving Agreement with Caler, Donten for Financial Auditing Services
Agreement	Agreement Financial Auditing Services
Attachment	Notice of Intent to Award
Attachment	Summary of EC Ranking
Attachment	RFP SUBMITTAL - CALER, DONTEN, LEVINE, ET. AL.

RESOLUTION NO. R17-

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, APPROVING AN AGREEMENT WITH CALER, DONTER, LEVINE, PORTER & VEIL, P.A. OF WEST PALM BEACH, FLORIDA FOR FINANCIAL AUDITING SERVICES FOR THE FISCAL YEARS ENDING SEPTEMBER 30, 2017, 2018, AND 2019; AUTHORIZING THE CITY MANAGER TO SIGN A THREE (3) YEAR AGREEMENT; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, on September 22, 2017, Procurement Services opened and tabulated eight (8) proposals to the RFP #072-1410-17/IT for "Financial Auditing Services"; and

WHEREAS, after review and evaluation by the audit committee which was appointed by the City Commission on October 18, 2011, it has been determined appropriate by staff to recommend award of this RFP to Caler, Donten, Levine, Porter & Veil, P.A., of West Palm Beach, Florida as the highest ranked qualified firm; and

WHEREAS, upon recommendation of staff, the City Commission of the City of Boynton Beach does hereby approve the award of RFP #072-1410-17/IT to Caler, Donten, Levine, Porter & Veil, P.A., of West Palm Beach, Florida.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof.

Section 2. The City Commission of the City of Boynton Beach, Florida, hereby approves the award of an Agreement for Financial Auditing Services to Caler,

Donten, Levine, Porter & Veil, P.A., for services for the fiscal years ending September 30, 2017, 2018, and 2019.

Section 3. That the City Manager is hereby authorized and directed to sign an Agreement between the City of Boynton Beach and Caler, Donten, Levine, Porter & Veil, P.A., a copy of which is attached hereto.

Section 4. That this Resolution shall become effective immediately.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

AGREEMENT BETWEEN THE CITY OF BOYNTON BEACH AND CALER, DONTEN, LEVINE, COHEN, PORTER & VEIL
RFP NO. 072-1410-17/IT – FINANCIAL AUDITING SERVICES

THIS AGREEMENT is entered into between the City of Boynton Beach, hereinafter referred to as "the City", and **CALER, DONTEN, LEVINE, COHEN, PORTER & VEIL, P.A.**, hereinafter referred to as "FINANCIAL AUDITING SERVICES PROVIDER", in consideration of the mutual benefits, terms, and conditions hereinafter specified.

1. PROJECT DESIGNATION. The Firm is retained by the City to perform professional services in connection with the **RFP FOR FINANCIAL AUDITING SERVICES; RFP No.: 072-1410-17/IT.**

2. SCOPE OF SERVICES. Firm agrees to perform the services, identified in **Section II – Scope of Services** and attached hereto as Exhibit A.

3. TIME FOR PERFORMANCE. Work under this agreement shall commence upon written notice by the City to the Professional to proceed. Professional shall perform all services and provide all work product required pursuant to this agreement upon written notice to proceed.

4. TERM: This Agreement shall be for a period of three years commencing on the date the Agreement is executed by the City. The City of Boynton Beach may extend the contract with the same terms and conditions for two additional, two-year renewal terms subject to vendor acceptance, satisfactory performance and determination that renewal will be in the best interest of the City.

5. PAYMENT: The Firm shall be paid by the Provider/City for completed work and for services rendered under this agreement as follows:

   Fiscal Year Ending September 30, 2017 Audit - $106,725.00
   Fiscal Year Ending September 30, 2018 Audit - $106,725.00
   Fiscal Year Ending September 30, 2019 Audit - $106,725.00

   a. The total contract price, as referred to herein, shall be the total amount of payment to Firm for services provided under this agreement for the entire term of the Agreement

   b. Payment for the work provided by Firm shall be made promptly on all invoices submitted to the City properly, provided that the total amount of payment to Firm shall not exceed the total contract price without express written modification of the Agreement signed by the City Manager or his designee.

   c. The Firm may submit invoices to the City once per month during the progress of the work for partial payment for project completed to date. Such invoices will be reviewed by the City, and upon approval thereof, payment will be made to the Firm in the amount approved.

   d. Final payment of any balance due the Firm of the total contract price earned will be made promptly upon its ascertainment and verification by the City after the completion of the work under this Agreement and its acceptance by the City.

   e. Payment as provided in this section by the City shall be full compensation for work performed, services rendered and for all materials, supplies, equipment and incidentals

necessary to complete the work.

f. The Firm's records and accounts pertaining to this agreement are to be kept available for inspection by representatives of the City and State for a period of three (3) years after the termination of the Agreement. Copies shall be made available upon request.

6. OWNERSHIP AND USE OF DOCUMENTS. All documents, drawings, specifications and other materials produced by the Firm in connection with the services rendered under this Agreement shall be the property of the City whether the project for which they are made is executed or not. The Firm shall be permitted to retain copies, including reproducible copies, of drawings and specifications for information, reference and use in connection with Firm's endeavors.

7. COMPLIANCE WITH LAWS. Professional shall, in performing the services contemplated by this Agreement, faithfully observe and comply with all federal, state and local laws, ordinances and regulations that are applicable to the services to be rendered under this agreement.

8. INDEMNIFICATION. Professional shall indemnify, defend and hold harmless the City, its offices, agents and employees, from and against any and all claims, losses or liability, or any portion thereof, including fees and costs, arising from injury or death to persons, including injuries, sickness, disease or death to Professional's own employees, or damage to property occasioned by a negligent act, omission or failure of the Professional.

9. INSURANCE. Successful Offeror shall, at a minimum, provide, pay for, and maintain in force at all times during the term of this Contract the following insurances:

Commercial Liability Insurance - A Commercial Liability Insurance Policy shall be provided which shall contain limits of no less than One Million Dollars ($1,000,000.00) per occurrence for bodily injury liability, personal injury liability and property damage liability on a per project basis, and shall contain limits of no less than a Two Million Dollars ($2,000.000.00) aggregate.

Coverage must be afforded on a form no more restrictive than CG 20 10 10 01 and CG 20 37 10 01 Commercial Liability Policy, without restrictive endorsements, as filed by the Insurance Services Office and must include: premises and operations, independent contractors, products and/or completed operations for contracts, broad form contractual coverage applicable to this specific Contract including any hold harmless and/or indemnification Contract, personal injury coverage with employee and contractual exclusions removed and policy limits shall be applied on a primary and non-contributory basis.

Professional Liability (Errors & Omissions) Insurance - Professional Liability Insurance with the limits of liability provided by such policy for each claim and on a claim made basis or on an occurrence basis to be no less than one million Dollars ($1,000,000) per occurrence with a limit of no less than two million dollars ($2,000,000) aggregate. Consultant shall notify the City in writing within thirty (30) days of any claim filed or made against its Professional Liability Insurance Policy. Consultant acknowledges that the City is relying on the competence of the Consultant to design the project to meet its functional intent. If it is determined during course of the project that changes must be made due to Consultant's negligent errors and omissions, Consultant shall promptly rectify them at no cost to City and shall be responsible for additional costs, if any, of the project to the proportional extent caused by such negligent errors or omissions.

Workers Compensation Insurance - Workers' Compensation insurance to apply for all employees in compliance with State Statutory limits, as may be amended from time to time, the "Workers' Compensation Law" of the State of Domicile, and all applicable Federal laws. In addition, the policy(ies) must include employers' liability with a limit of One Million Dollars ($1,000,000.00) each accident, One Million Dollars ($1,000,000.00) aggregate limit by disease and One Million Dollars ($1,000,000.00) each employee by disease. Additionally, if there will be operations undertaken on or about navigable waters, a coverage endorsement must be included for the U.S. Longshoremen & Harbor Workers Act and Jones Act. If exempt for Worker's Compensation, proper documentation shall be provided.

Said general liability policy shall name the City of Boynton Beach as an "additional named insured" and shall include a provision prohibiting cancellation of said policy except upon thirty (30) days prior written notice to the City. Certificates of coverage as required by this section shall be delivered to the City within fifteen (15) days of execution of this agreement.

10. INDEPENDENT CONTRACTOR. The Professional and the City agree that the Professional is an independent contractor with respect to the services provided pursuant to this agreement. Nothing in this agreement shall be considered to create the relationship of employer and employee between the parties hereto. Neither Professional nor any employee of Professional shall be entitled to any benefits accorded City employees by virtue of the services provided under this agreement. The City shall not be responsible for withholding or otherwise deducting federal income tax or social security or for contributing to the state industrial insurance program, otherwise assuming the duties of an employer with respect to Professional, or any employee of Professional.

11. COVENANT AGAINST CONTINGENT FEES. The Professional warrants that he has not employed or retained any company or person, other than a *bona fide* employee working solely for the Professional, to solicit or secure this contract, and that he has not paid or agreed to pay any company or person, other than a *bona fide* employee working solely for the Professional, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this contract.

    For breach or violation of this warranty, the City shall have the right to annul this contract without liability or, in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

12. DISCRIMINATION PROHIBITED. The Professional, with regard to the work performed by it under this agreement, will not discriminate on the grounds of race, color, national origin, religion, creed, age, sex or the presence of any physical or sensory handicap in the selection and retention of employees or procurement of materials or supplies.

13. ASSIGNMENT. The Professional shall not sublet or assign any of the services covered by this Agreement without the express written consent of the City.

14. NON-WAIVER. Waiver by the City of any provision of this Agreement or any time limitation provided for in this Agreement shall not constitute a waiver of any other provision.

15. TERMINATION.

    a. The City reserves the right to terminate this Agreement at any time by giving ten (10) days written notice to the Professional.

b. In the event of the death of a member, partner or officer of the Professional, or any of its supervisory personnel assigned to the project, the surviving members of the Professional hereby agree to complete the work under the terms of this Agreement, if requested to do so by the City. This section shall not be a bar to renegotiations of this Agreement between surviving members of the Professional and the City, if the City so chooses.

16. DISPUTES. Any disputes that arise between the parties with respect to the performance of this Agreement, which cannot be resolved through negotiations, shall be submitted to a court of competent jurisdiction in Palm Beach County, Florida. This Agreement shall be construed under Florida Law.

17. NOTICES. Notices to the City of Boynton Beach shall be sent to the following address:

Lori LaVerriere, City Manager
City of Boynton Beach
P.O. Box 310
Boynton Beach, FL 33425-0310

Notices to Professional shall be sent to the following address:

Caler, Donten, Levine, Cohen, Porter & Veil, P.A.
ATTN: Scott L. Porter
505 South Flagler Drive, Suite 900
West Palm Beach, FL 33401

18. INTEGRATED AGREEMENT. This agreement, together with attachments or addenda, represents the entire and integrated agreement between the City and the Professional and supersedes all prior negotiations, representations, or agreements written or oral. This agreement may be amended only by written instrument signed by both City and Professional.

19. PUBLIC RECORDS. Sealed documents received by the City in response to an invitation are exempt from public records disclosure until thirty (30) days after the opening of the Bid unless the City announces intent to award sooner, in accordance with Florida Statutes 119.07.

The City is public agency subject to Chapter 119, Florida Statutes. The Contractor shall comply with Florida's Public Records Law. Specifically, the Contractor shall:

A. Keep and maintain public records required by the CITY to perform the service;

B. Upon request from the CITY's custodian of public records, provide the CITY with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in chapter 119, Fla. Stat. or as otherwise provided by law;

C. Ensure that public records that are exempt or that are confidential and exempt from public record disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and, following completion of the contract, Contractor

shall destroy all copies of such confidential and exempt records remaining in its possession once the Contractor transfers the records in its possession to the CITY; and

D. Upon completion of the contract, Contractor shall transfer to the CITY, at no cost to the CITY, all public records in Contractor's possession All records stored electronically by Contractor must be provided to the CITY, upon request from the CITY's custodian of public records, in a format that is compatible with the information technology systems of the CITY.

E. IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS:

JUDY PYLE, CITY CLERK
100 E BOYNTON BEACH BLVD.
BOYNTON BEACH, FLORIDA, 33435
561-742-6061
PYLEJ@BBFL.US

DATED this _____ day of _____, 20____.

CITY OF BOYNTON BEACH

_____ _____

Lori LaVerriere, City Manager Professional

Attest/Authenticated: _____

Title

_____ (Corporate Seal)

Judy Pyle, City Clerk

Approved as to Form: Attest/Authenticated:

_____ _____

James A. Cherof, City Attorney Secretary

EXHIBIT A
"SCOPE OF SERVICES"

A. WORK OBJECTIVE

1. PURPOSE

The City of Boynton Beach (the "City"), a political subdivision of the State of Florida, located in Palm Beach County, is soliciting the services of qualified firms of certified public accountants (the "Auditor") to audit its financial statements for the fiscal years ending September 30, 2017 through 2020, with two (2) optional, two (2) year renewal periods. These audits are to be performed in accordance with generally accepted auditing standards, and, the standards for financial audits contained in the Government Auditing Standards issued by the Comptroller General of the United States, the provisions of the federal single Audit Act Amendment of 996 and U.S. Office of Management and Budget (OMB) Super Circular; Audits of States, Local Governments and Non-Profit Organizations, Audits of State and Local Governments (Revised) – AICPA, Section 215.97 Florida Statutes, Florida Single Audit Act; and Chapter 10.550 Local Governmental Entity Audits, Rules of the Auditor General, State of Florida and any other applicable Federal, State and local laws and regulations.

2. SCOPE OF WORK TO BE PERFORMED

The City of Boynton Beach requires the auditor to express an opinion on the fair presentation of its basic financial statements in conformity with accounting principles generally accepted in the United States.

The Auditor is required to audit the financial statements of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the City, which collectively comprise the City's basic financial statements. The Auditor is not required to audit the introductory section of the Comprehensive Annual Financial Report (CAFR), its Management's Discussion and Analysis, its required supplementary information and the statistical section of the CAFR. However, the auditor is to provide an "in-relation-to" report on the combining and individual fund financial statements and supporting schedules based on the auditing procedures applied during the audit of the basic financial statements.

The City expects to file the CAFRs annually with the Government Finance Officers Association of the United States and Canada for review in the Certificate of Achievement for Excellence in Financial Reporting Program. It is anticipated that the Auditor will provide special assistance to the City to meet the requirements of that program by providing technical advice to ensure awarding of certification.

The auditor shall also be responsible for performing certain limited procedures involving required supplementary information required by the Governmental Accounting Standards Board as mandated by generally accepted auditing standards.

3. TERM

This Agreement shall be for a period of three years commencing on the date the Agreement is executed by the City. The City of Boynton Beach may extend the contract with the same terms and conditions for two additional, two-year renewal terms subject to vendor acceptance, satisfactory performance and determination that renewal will be in the best interest of the City.

4. AUDITING STANDARDS TO BE FOLLOWED

To meet the requirements of this Request for Proposal, the audit shall be performed in accordance with:

a. Section 218.39, Florida Statutes, and any other applicable Florida Statutes.
b. Rules of the Auditor General for the State of Florida, Chapter 10.550 and other rules as applicable.
c. Audits of State and Local Government Units, issued by the American Institute of Certified Public Accountants.
d. Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations, issued by the U.S. Office of Management and Budget (OMB).
e. Federal Single Audit Act of 1984.
f. Federal Single Audit Act Amendments of 1996.
g. Florida Single Audit Act (Section 215.97, Florida Statutes).
h. Statements on Auditing Standards (GAAS).
i. Government Auditing Standards, issued by the Comptroller General of the United States.
j. Any other applicable Federal, state, local regulations or professional guidance not specifically listed above as well as any additional requirements that may be adopted by these organizations in the future.

Any updates of, or amendments to, these described auditing standards or applicable laws are to be incorporated in future audits performed by the selected auditor performing auditing engagements for the City in future fiscal years. Proposed fees must incorporate all required audit procedures, relative to all regulations in effect, and issued, as of the date of the closing of this Request for Proposals, to include all GASBs issued to date.

5. REPORTS TO BE ISSUED

Following the completion of the audit of the fiscal year's financial statements, the auditor shall issue:

a. A report on the fair presentation of the basic financial statements in conformity with accounting principles generally accepted in the United States.

b. A report on internal control over financial reporting based on the audit of the basic financial statements.

c. A report on compliance with applicable laws and regulations, as required by Government Auditing Standards.

d. A management letter required by Section 11.45(3) (a) 4, Florida Statutes.

e. Reports required by the Single Audit Act of 1984, as amended, and the Florida Single Audit Act to include:

- An "in-relation-to" report on the Schedule of Expenditures of Federal Awards and State Financial Assistance.

- A single audit report on the internal control structure used in administering Federal awards programs and state financial assistance projects.
- A single audit report on compliance with laws and regulations related to major Federal awards programs and state financial assistance projects. This report should include an opinion on compliance with specific requirements applicable to major Federal awards programs and state financial assistance projects.

f. Other required disclosures required by relevant Rules of the Auditor General.

g. **COMPREHENSIVE ANNUAL FINANCIAL STATEMENT (CAFR)**, the City desires the auditor to publish the CAFR using the City's format and provide (15) bound copies for distribution and a .pdf file that can be used for electronic submission.

In the required report(s) on internal controls, the auditor shall communicate any reportable conditions found during the audit. A reportable condition shall be defined as a significant deficiency in the design or operation of the internal control structure, which could adversely affect the organization's ability to record, process, summarize and report financial data consistent with the assertions of management in the financial statements.

Reportable conditions that are also material weaknesses shall be identified as such in the report.

Non-reportable conditions and other matters discovered by the auditors shall be reported in a separate letter to management, which shall be referred to in the reports on internal controls.

The report on compliance shall include all material instances of noncompliance. All nonmaterial instances of noncompliance shall be reported in a separate management letter, which shall be referred to in the report on compliance.

Irregularities and Illegal Acts – auditors shall be required to make an immediate, written report of all irregularities and illegal acts or indications of illegal acts of which they become aware to the Director of Financial Services and the City Manager.

Use of the audited financial statements, opinions or any of the above named reports will not result in additional compensation unless their use requires additional certification or services on the part of the firm.

6. SPECIAL CONSIDERATIONS

The City of Boynton Beach will send its comprehensive Annual Financial Report (CAFR) to the Government Finance Officers Association of the United States and Canada for meritorious review in their Certificate of Achievement for Excellence in Financial Reporting program.

During the contract period, the City may prepare one or more official statements in connection with the sale of debt securities that will contain the basic financial statements and the auditor's report thereon. The auditor shall be required, if requested by the

financial advisor and /or the underwriter, to issue a "consent and citation of expertise" as the auditor and any necessary "comfort letters".

7. WORKING PAPER RETENTION AND ACCESS TO WORKING PAPERS

All working papers and reports must be retained, at the auditor's expense, for a period of three (3) years after completion of any work provided herein, unless the firm is notified in writing by the City of Boynton Beach of the need to extend the retention period. City management and their representatives shall be entitled at any time during the contract period to inspect and reproduce such documents as deemed necessary.

In addition, the firm shall respond to the reasonable inquiries of successor auditors and allow successor auditors to review working papers relating to matters of continuing accounting significance. As requests for copies of working papers are fulfilled, the auditors will be required to notify the Director of Financial Services of the request, as appropriate.

8. ADDITIONAL SERVICES

If, during the contractual period, additional auditing or accounting services are needed, the proposer may be engaged to perform these services. The proposer shall, upon receipt of a written request from the City, perform such additional services. Such services, if offered by the proposer, may include, but not be limited to:

- Management advisory services
- Arbitrage calculations
- Extended audit services or special audits
- Assistance in the preparation of any Official Statements required by Bond Counsel

All additional work will be documented by engagement memoranda to be approved by the City in accordance with the procurement policies of the City. The proposer will be compensated in accordance with fees established as a result of this RFP. The total amount for additional services shall be separately negotiated at the time of the engagement for a not-to-exceed amount calculated in accordance with the rates of the awarded contract. In addition, the audit firm will be responsible for ensuring that any additional services provided would not impair the firm's independence as prescribed in Amendment 3 to *Government Auditing Standards.*

B. DESCRIPTION OF THE CITY

1. BACKGROUND INFORMATION

The City of Boynton Beach serves an area of approximately 16.5 square miles with a population of approximately 73,000. The City provides services to its citizens in many areas such as law enforcement, emergency medical services, fire control, water and sewer, library services, refuse collection, municipal golf course, and various park sites and recreational services. The City was incorporated in 1920 and has operated under a Commission-Manager form of government (the City employs some 750 full time and 50

part-time employees; had total assets of almost $397 million, and revenues of over $180 million for the fiscal year ended September 30, 2016.

2. FUND STRUCTURE

The City of Boynton Beach uses the following fund types and account groups in its financial reporting:

Fund Type/Account Group	Number of Individual Funds	Number With Legally Adopted Annual Budgets
General Fund	1	1
Special Revenue Funds	15	7
Debt Service Funds	1	1
Capital Projects Funds	3	3
Enterprise Funds	4	4
Internal Service Funds	3	3
Pension Trust Funds	3	0

The City of Boynton Beach's budget for Fiscal Year 2016 is $78 million (General Fund only) for operations. Tax millage rates are 7.9 mills for the General Fund.

The City has a Finance staff of three who will be committed to the audit and the timely completion of the Comprehensive Annual Financial Report (CAFR).

More detailed information on the government and its finances can be found in budget documents, official statements, annual financial reports, and administrative policies and procedures manuals.

3. BUDGETARY BASIS OF ACCOUNTING

The budget of the General Fund is prepared on the modified accrual basis except that encumbrances are budgeted as the equivalent of expenditures as opposed to a reservation of fund balance. As a result, the General Fund revenue, expenditures and operating transfers reported in the budget and actual statement differ from the amounts reported on the GAAP basis. None of the other budgeted funds have any differences between the GAAP basis and the budgetary basis.

4. FEDERAL AND STATE FINANCIAL ASSISTANCE

During the initial fiscal year to be audited, the City of Boynton Beach will receive financial assistance including, but not limited to, the following federal agencies:

Federal Assistance	**CFDA Number**
U.S. Department of Housing and Urban Development	
Community Development Block Grant Entitlement	14.218
U.S. Department of Justice	
Bulletproof Vest Program	16.607
Justice Assistance Grant Program	16.738
FL Dept. of Agriculture	
Urban and Community Forestry Grant	10.664
Office of Attorney General	
Victims of Crime Act	16.02
FL Dept. of Health Bureau of Emergency Medical Oversight	
EMSTAR compliance	20.616
State Assistance	
Florida Department of State, Division of Library and Information Services	
State Aid to Libraries	45.030
Florida Housing Finance Corporation	
State Housing Initiatives Partnership (SHIP) Program	52.901
State of Florida Dept. of State	
Boynton Bch Cultural Resources Smart Phone Application	15.904
Department of Homeland Security	
Staffing for Adequate Fire and Emer. Response	97.083
Fl. Dept. of Health-	
PBC Division of Emer. Mgmt. COT Replacement	

Local Assistance

Comcast Internet Essentials
Dollar General Summer Reading
Target K-9 Event
Palm Beach County, Department of Environmental Resources
USA Swimming

5. EMPLOYEE RETIREMENT PLANS

The City of Boynton Beach contributes to three single-employer pension plans covering all full-time City employees. City Ordinance establishes the benefit provisions and all other requirements. The pension funds have an independent contracted administrator, and the investments of the fund are administered, managed and operated by its respective Board of Trustees. Currently, all pension funds are audited separately and reports are provided to the City. The defined benefit plans are:

	General Employees' Pension Fund	Police Officers' Pension Fund	Firefighters' Pension Fund
Participant data as of October 1, 2015 most recent actuarial valuation:			
• Retirees and beneficiaries receiving benefits	376	120	80
• Terminated vested employees	47	7	1
• Vested current employees	265	83	69
• Non-vested current employees	111	56	51

6. COMPONENT UNITS

For financial reporting purposes, the City of Boynton Beach is in conformity with the Governmental Accounting Standards Board's Codification of Governmental Accounting and Financial Reporting Standards, Section 2100. Using these criteria, a component unit is included in the City of Boynton Beach's financial statements. The management of the City of Boynton Beach has identified the Community Redevelopment Agency (CRA) for inclusion in the City's financial statements as a blended component unit.

The CRA has a September 30 year-end and maintains a set of books and records independent of the set of books and records maintained by the City of Boynton Beach. The CRA is responsible for the issuance of audited financial statements and is blended into the City Of Boynton Beach's financial statements. The audit of the CRA's financial statements is not within the scope of services covered by this RFP.

7. MAGNITUDE OF FINANCE OPERATIONS

The Financial Services Department consists of the following positions:

POSITIONS	NUMBER OF EMPLOYEES
Director of Financial Services	1
Accounting Manager	1
Budget Manager	1
Purchasing Manager	1
Accountant	2
Payroll Administrator	1
Senior Buyer	1
Accounts Payable Specialist	1
Payroll Technician	1
Accounting Technicians	4
Warehouse Manager	1
Assistant Warehouse Manager	1
Service Writer	1
Senior Storekeeper	1
TOTAL POSITIONS:	**18**

8. COMPUTER SYSTEM

The City is currently utilizing SunGard HTE financial software in an AS400 environment.

9. AVAILABILITY OF PRIOR AUDIT REPORTS AND WORKING PAPERS

Interested proposers who wish to review prior years' Comprehensive Annual Financial Reports (CAFR) and management letters should contact Mara Frederiksen Accounting Manager, 100 East Boynton Beach Blvd., Boynton Beach, Florida 33435. The CAFR is also available online via the City website at www.boynton-beach.org under the "Finance" link or the "Public Records" link.

10. ASSISTANCE TO BE PROVIDED TO THE AUDITOR AND REPORT PREPARATION

The Financial Services staff will be available during the audit to assist the firm by providing information, documentation and explanations. In addition, staff will provide the following:

1. Preparation of the confirmations and lead schedules.
2. Assistance in providing paid invoices, cancelled checks and other supporting documentation as requested by the firm.
3. Year-end closing of the books of account and preparation of necessary adjusting journal entries.
4. Preparation of schedules and related materials as requested by the firm.
5. Preparation of all financial statements including related notes and required supplemental financial information.
6. Preparation of the annual local government financial report submitted to the Florida Department of Banking and Finance.

The City of
Boynton Beach

PROCUREMENT SERVICES
100 E. Boynton Beach Boulevard
P.O. Box 310
Boynton Beach, Florida 33425-0310
561-742-6310
Fax: (561) 742-6316

NOTICE OF INTENT TO NEGOTIATE/AWARD

SOLICITATION NO. **RFP NO. 072-1410-17/IT**
SOLICITATION TITLE: **FINANCIAL AUDITING SERVICES**
DATE OF NOTICE: **October 19, 2017**

At the Selection Committee meeting of October 18, 2017, the Selection Committee for the above referenced solicitation scored and ranked the firms as follows:

RANKING:
1. **CALER, DONTEN, LEVINE, COHEN, PORTER & VEIL, P.A.**
2. **MARCUM LLP**
3. **GRAU & ASSOCIATES**
4. **TEMPLETON & COMPANY, LLP**
5. **S. DAVIS & ASSOCIATES, CPA**
6. **KEEFE MCCULLOUGH**
7. **REHMANN ROBSON**
8. **HCT CERTIFIED PUBLIC ACCOUNTANTS LLC**

This Intent to Award will be presented to City Commission as a recommendation to approve the Selection Committee Rankings and award a contract to the first-ranked firm: CALER, DONTEN, LEVINE, COHEN, PORTER & VEIL, P.A.

This Notice is conditioned upon and subject to the City of Boynton Beach's reservation of rights as contained in the RFP documents and approval by the City Commission.

In accordance with Section 2-355 of the Palm Beach County Code of Ordinances, the Cone of Silence remains in effect for this solicitation until award, rejection or other action is taken by the applicable award authority to otherwise end the solicitation process.

Submitted by:

Ilyse Triestman, CPPO, CPPB, FCCN
Purchasing Manager

RFP FOR "FINANCIAL AUDITING SERVICES"

RFP No.: 072-1410-17/IT

SUMMARY OF REVIEWERS SCORES - EVALUATION COMMITTEE MEETING (INITIAL RANKING/SHORTLIST) - 10/18/17 at 9:00 AM

NAME:		PROPOSER'S EXPERTISE & EXPERIENCE MAX - 30	AUDIT APPROACH MAX - 30	OFFICE LOCATED IN PALM BEACH CTY MAX - 20	PRICE PROPOSAL MAX - 20	TOTALS MAX - 100	RANKING
CALER, DONTEN, LEVINE, COHEN, PORTER & VEIL, P.A.							
T. HOWARD		29.00	29.00	20.00	16.90	94.90	
A. DAVIDSON		28.00	29.00	20.00	16.90	93.90	**1**
M. FREDERIKSEN		30.00	27.00	20.00	16.90	93.90	
TOTAL ALL EVALUATORS						**282.70**	
GRAU & ASSOCIATES							
T. HOWARD		27.00	25.00	20.00	20.00	92.00	
A. DAVIDSON		28.00	30.00	20.00	20.00	98.00	**3**
M. FREDERIKSEN		23.00	21.00	20.00	20.00	84.00	
TOTAL						**274.00**	
HCT CERTIFIED PUBLIC ACCOUNTANTS & CONSULTANTS LLC							
T. HOWARD		24.00	24.00	10.00	17.80	75.80	
A. DAVIDSON		27.00	29.00	17.00	17.80	90.80	**8**
M. FREDERIKSEN		21.00	20.00	0.00	17.80	58.80	
TOTAL						**225.40**	
KEEFE MCCULLOUGH							
T. HOWARD		25.00	24.00	10.00	19.50	78.50	
A. DAVIDSON		29.00	30.00	18.00	19.50	96.50	**6**
M. FREDERIKSEN		27.00	17.00	0.00	19.50	63.50	
TOTAL						**238.50**	
MARCUM LLP							
T. HOWARD		27.00	27.00	20.00	17.30	91.30	
A. DAVIDSON		30.00	28.00	20.00	17.30	95.30	**2**
M. FREDERIKSEN		25.00	27.00	20.00	17.30	89.30	
TOTAL						**275.90**	
REHMANN ROBSON							
T. HOWARD		20.00	24.00	10.00	19.60	73.60	
A. DAVIDSON		28.00	29.00	15.00	19.60	91.60	**7**
M. FREDERIKSEN		20.00	21.00	0.00	19.60	60.60	
TOTAL						**225.80**	
S. DAVIS & ASSOCIATES, CPA							
T. HOWARD		24.00	24.00	15.00	18.50	81.50	
A. DAVIDSON		27.00	27.00	20.00	18.50	92.50	**5**
M. FREDERIKSEN		23.00	25.00	20.00	18.50	86.50	
TOTAL						**260.50**	
TEMPLETON & COMPANY, LLP							
T. HOWARD		24.00	25.00	20.00	19.50	88.50	
A. DAVIDSON		26.00	26.00	20.00	19.50	91.50	**4**
M. FREDERIKSEN		28.00	23.00	20.00	19.50	90.50	
TOTAL						**270.50**	

Tabulated by: Ilyse Triestman, Purchasing Manager 10/18/17

ORIGINAL

Proposal to Provide Financial Auditing Services

City of Boynton Beach, Florida

RFP # 072-1410-17/IT

Financial Auditing Services

September 22, 2017

Proposal to Provide Financial Auditing Services
RFP # 072-1410-17/IT

September 22, 2017

CITY OF BOYNTON BEACH, FLORIDA

CALER, DONTEN, LEVINE, COHEN, PORTER & VEIL, P.A.
CERTIFIED PUBLIC ACCOUNTANTS

505 South Flagler Drive, Suite 900
West Palm Beach, Florida 33401
(561) 832-9292

Contact Persons:
Scott L. Porter, Partner
Mark D. Veil, Partner

Table of Contents

Tab		Page No.
1.	Introduction Letter	1
2.	Scope of Services and Independence	6
3.	License to Practice in Florida	8
4.	Firm Qualifications and Experience	9
5.	Partner, Supervisory, and Staff Qualifications and Experience	15
6.	Prior Engagements with the City of Boynton Beach	31
7.	Similar Engagements with Other Government Entities	32
8.	Specific Audit Approach	
	a. Segmentation of Audit Procedures	38
	b. Staff Assigned to Audit Segments	39
	c. Sample Sizes and Statistical Sampling	39
	d. Computerized Audit Software	40
	e. Analytical Procedures	41
	f. Documentation of Internal Control	41
	g. Legal Compliance Documentation	42
	h. Compliance Audit Sample Selection	43
9.	Identification of Anticipated Potential Audit Problems	44
10.	Price Proposal	45
11.	Submittal Forms	48
	a. Proposer Acknowledgment	49
	b. Addenda	50
	c. Statement of Qualifications	53
	d. References	55
	e. Anti-Kickback Affidavit	56
	f. Non Collusion Affidavit of Prime Qualifier	57
	g. Confirmation of Minority Owned Business	58
	h. Confirmation of Drug-Free Workplace	59
	i. Acknowledgment of Palm Beach County Inspector General	60
	j. Schedule of Sub-Consultants	61
	k. Caler, Donten, Levine, Cohen, Porter & Veil, P.A. W-9 form	62

CALER, DONTEN, LEVINE,
PORTER & VEIL, P.A.

CERTIFIED PUBLIC ACCOUNTANTS

WILLIAM K. CALER, JR., CPA
LOUIS M. COHEN, CPA
JOHN C. COURTNEY, CPA, JD
DAVID S. DONTEN, CPA
JAMES B. HUTCHISON, CPA
JOEL H. LEVINE, CPA
JAMES F. MULLEN, IV, CPA
MICHAEL J. NALEZYTY, CPA
THOMAS A. PENCE, JR., CPA
SCOTT L. PORTER, CPA
MARK D. VEIL, CPA

505 SOUTH FLAGLER DRIVE, SUITE 900
WEST PALM BEACH, FL 33401-5948

TELEPHONE (561) 832-9292
FAX (561) 832-9455

info@cdlcpa.com

MEMBERS
AMERICAN INSTITUTE OF
CERTIFIED PUBLIC ACCOUNTANTS

FLORIDA INSTITUTE OF
CERTIFIED PUBLIC ACCOUNTANTS

Audit Selection Committee
City of Boynton Beach
100 E. Boynton Beach Boulevard
Boynton Beach, Florida

We are pleased to present our proposal to serve as the independent auditors for the City of Boynton Beach. We are very proud of our Firm, our clients, and our professionals and we hope this proposal conveys how strongly we desire to continue to serve as the auditors for the City of Boynton Beach.

Having worked with the City for several years, we understand the City's history, the City's financial structure and funds, the details of the City's operations, policies and future challenges and opportunities. Equally as important, we have a clear understanding of your needs and the qualities the City is seeking in their auditors. Caler, Donten & Levine is the right firm to meet your expectations by continuing to perform a thorough, quality audit in the timely and efficient manner that you expect. We remain committed to being a local, professional resource for the City and are available throughout the year to meet with you, answer questions and advise the Council, City Manager and Finance Staff on matters that will ensure the financial stability and thorough, transparent financial reporting of the City to the public.

Based on your Request for Proposal, our engagement will be a financial and compliance audit of the City of Boynton Beach, Florida, in accordance with U.S. generally accepted governmental accounting standards; the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States; and Chapter 10.550, Rules of the Auditor General for the State of Florida. In addition, we will perform a Federal or Florida Single Audit, if required, and issue all required reports. As demonstrated by our prior engagements, we have the team to complete all work and issue the final reports within the time schedules required by the City in the Request for Proposal.

About Our Firm

Caler, Donten, Levine, Cohen, Porter & Veil, P.A. was originally formed in 1987 with five partners and one secretary. Today, after 30 years in business, we are the leading full service, local CPA firm in Palm Beach County with over 95 professional and administrative employees at our office in downtown West Palm Beach at 505 S. Flagler Drive, Suite 900. Why has our growth been so dramatic? We provide ***outstanding client service at a reasonable price.***

Our firm was created by local partners with a vision. Each of our partners was associated with one of the "Big Four" international accounting firms, but recognized that there was an opportunity to fulfill a need in our community with a new type of firm. Our philosophy was to combine the knowledge and experience of seasoned professionals from an international firm background with the responsiveness and flexibility possible with a local CPA firm. We are proud of our heritage as a local firm serving local clients in Palm Beach County. As a client of our firm, you will deal directly with local partners that have the knowledge, experience and authority to answer your questions and make critical business decisions without delay.

Our partners are the owners and the decision-makers for our Firm. When you need an answer, the partner you know and work with during the audit will make the decision and provide you with an accurate, timely response. This means that the City's audit and important decisions will not be delayed waiting on approval from an unknown and unseen partner in an out-of-town office. While the offerings of large, regional and national firms may seem appealing, there can be independence issues with those firms selling add-on services and the large overhead costs for the home office operations in another county or state that you never see. Our focus has always been on local Palm Beach County clients and our local community. Unlike firms based in another county or State that have a satellite office here, our commitment and our resources are devoted to Palm Beach County. This means the City can count on Caler, Donten & Levine to fulfill our promises, as we always have, and not worry about staff being diverted to a bigger client elsewhere in the State.

Why Continue with Caler, Donten, Levine, Cohen, Porter & Veil, P.A.?

As you consider whether the City should continue its professional relationship with Caler, Donten & Levine, we suggest that you ask the following questions:

- ***Is the City receiving a thorough, quality audit?***
- ***Are our auditors knowledgeable about the City's operations and history?***
- ***Are our auditors professional, technically proficient, and interested in you?***
- ***Does the City have an open line of communication for technical questions and advice from the engagement partner and fieldwork manager?***
- ***Are our auditors always available and responsive to questions and the needs of the City?***
- ***Are our auditors flexible in adjusting to the work schedule of the City and unexpected circumstances?***
- ***Are our auditors involved in and knowledgeable of events in Palm Beach County that affect the City?***
- ***Is the City getting the quality service and value it deserves?***

If you believe, as we do, that the answer to all of these questions is an unequivocal **YES**, then what benefits can the City expect from the substantial investment of your time and resources to educate and train new auditors about your operations?

Is it simply good practice to change auditors for a "fresh look" every few years or adopt an "auditor rotation" policy?

The Question of Auditor Rotation and a "Fresh Look"

Some people advocate the rotation of auditors to maintain auditor independence and often mention the benefit of a "fresh look" at an organization. Some auditors even tout a "fresh look" in seeking new engagements. However, the most widely recognized and objective study was performed by the U.S. General Accounting Office (GAO), which issued an independent report on auditor rotation to the U.S. Congress in November 2003. That report by the GAO, titled *Public Accounting Firms - Required Study on the Potential Effect of Mandatory Audit Firm Rotation*, concluded the following:

> "We believe that mandatory audit firm rotation may not be the most efficient way to enhance auditor independence and audit quality, **considering the costs of changing the auditor of record and the loss of auditor knowledge** that is not carried forward to the new auditor."

The GAO research identified several other concerns with ***changing*** auditors, but the major issue identified in the report was:

> "...changing public accounting firms ***increases the risk of an audit failure*** in the initial years of the audit as the new auditor acquires the knowledge of an organization's operations, systems, and financial reporting practices."

Today, even after the Sarbanes-Oxley Act (SOX) made major changes in the public accounting profession, the average audit firm tenure among the Fortune 1000 companies still averages well over 20 years, with some exceeding 50 years. These large public companies, the U.S. government, the American Institute of Certified Public Accountants and other professionals have all concluded that changing audit firms for the sake of change is not recommended and may even have adverse effects on audit quality.

We have provided excellent service to the City and developed a tremendous institutional knowledge of the City's history, operations and practices. We hope you will consider the value of this continuity and experience to a quality audit for the City and the recommendations of other independent, nationally recognized organizations in making your decision. In summary, the time honored saying *"If it ain't broke, don't fix it"*, applies here too.

Caler Donten & Levine is the Best Choice

As you review the proposals for independent auditors, many firms will present qualified personnel and experience. In fact, some firms may appear to be equal choices. However, we suggest you consider the following:

Proven Experience and Continuity – *How much of the work on the City's audit will actually be performed by a local partner and engagement team with years of experience with the City and on similar, local municipalities?*

The ***key members*** of our audit team; partners Scott Porter, CPA and Mark Veil, CPA each with over 30 years' experience, will continue our commitment of high level professional time to the City's audit. Further, we will commit to return our complete engagement team from the City's prior audit; audit senior manager, Scott Montgomery, CPA; audit manager, Michele Schneider, CPA; audit senior, Nick Raiola; and advanced staff accountant, Gary Mann. In addition, we will continue our commitment to the City **to maintain this experienced team for the term of our engagement** and **we will not make any unilateral changes in the audit team without your approval**. This guarantee of the continuity of our audit team demonstrates our commitment to ensuring the City has a knowledgeable, professional, and experienced audit team that cannot be matched by any other firm and we won't waste your valuable staff time with on the job training of new or inexperienced accountants. We have a history of quality service, quality audits, quality professionals and quality reporting that will continue with our proven, experienced team.

In addition, **a key consideration is whether other audit firms have an experienced, local computer audit specialist on the engagement, like Caler, Donten & Levine,** and if not, can they really perform a quality audit of the City without a complete and thorough review of your financial computer systems, security, and internal controls?

Local Office, Local Experience and Local Professionals - *How many firms have a local, home office with as much governmental experience as Caler, Donten & Levine?*

Our Firm has one office in West Palm Beach and our government clients are all located here, in Palm Beach County. Our office has been in the same location for 30 years. All decisions about your audit are made here, by the local partners you know. We work only on Palm Beach County government clients, so all our focus and priorities are here in Palm Beach County, not in Broward, Dade or another county. Our partners and staff are all local professionals; we don't rely on professional staff, computer audit specialists, independent review partners or government experts from offices in other cities or counties to complete the City's audit. This means your audit will not be delayed by needed approvals from unnamed professionals outside Palm Beach County who have no direct connection to or interest in the City. It also means that the City's local dollars stay in Palm Beach County.

In addition, the key members of our audit team, Scott Porter, Mark Veil, Scott Montgomery and Michele Schneider, all have years of experience with Single Audits for FEMA grants, which will be of critical importance to the City following the effects of Hurricane Irma on the City and Palm Beach County. Scott Porter was involved with FEMA grants as far back as Hurricane David in 1979 and has involvement with audits of FEMA grants for every major hurricane that impacted Palm Beach County since that date. Our experience will help the City in accounting and reporting these grants.

Commitment to the City and Year-round Communication - *How many firms are truly committed to assisting you and contributing to the continued success of the City?*

We have always encouraged the City to ***consider our Firm a resource*** and call us throughout the year to discuss new ideas, new standards, questions and concerns. We take great pride in assisting our clients, answering questions, advising you on what other local

governments are doing in our community and providing a timely response to your needs. Our partners are the owners and decision-makers for our Firm. This means you will get a timely, accurate answer that you can rely on without waiting for people in another office, county or state. You know the City's engagement partner, Scott Porter, and you will see him on-site and involved in all aspects of the City's audit. Most importantly, Scott is always accessible and responsive to the needs of the City. Our commitment is to always be available to help you and to ensure that there are no last minute surprises. Our history proves it.

Value - *How much value will the City receive from each firm's audit proposal?*

As with most things, the lowest price may not always be the best value, and this is particularly true for professional auditing services where there can be wide variations in the experience of auditors, the engagement hours for knowledgeable partners and managers, computer audit, independent review, and sample sizes for testing. These differences often appear in the form of lower fees and lower hours, but result in lower audit quality. Some would say that all audit opinions are equal so the lowest fee is best, but ultimately the real question is the risk to personal and professional reputations of an audit failure.

Caler, Donten & Levine has an outstanding record of audit quality. In our Firm's 30 year history, we have ***never had an audit failure, never had litigation involving an audit, never had any disciplinary action for an audit and have never had a Federal or State agency request a review of an audit.*** Likewise, our independent peer reviews by outside CPA firms have a ***30 year history of unqualified opinions on our audit quality*** with no letters of comment. No other firm we know of, national, regional or local, can match our history of audit quality. As evidenced by our record, quality is our first priority and we have never shortcut audit procedures or made aggressive judgments to reduce the scope of our audit work to lower the hours on an engagement. When you consider audit fees, **consider the value demonstrated by our record of quality auditing**, consider our knowledge and experience with local governments and consider the proven record of our team with the City. As with most things, you get what you pay for. **Is anything less worth the risk?**

Caler, Donten & Levine continues to be the most qualified firm to serve as the City's independent auditors. As the leading local firm in Palm Beach County, we value our relationship with the City and we look forward to meeting the high standards that the City deserves and expects. We will continue to prove our abilities to you every day because our future reputation depends on what you tell others about our people and our quality of service. If you would like to talk with us further on any matter presented in our proposal, please call Scott Porter or Mark Veil at (561) 832-9292.

On behalf of Caler, Donten, Levine, Cohen, Porter & Veil, P.A.

Scott L. Porter, CPA
Partner

2. Scope of Services and Independence

Scope of Services

We understand the work to be performed as outlined in the Scope of Work to be Performed section of the City's request for Proposal as follows:

1) We will perform an annual financial and compliance audit of the City of Boynton Beach as of September 30th, and express an opinion on the financial statements of the governmental activities, business-type activities, each major fund and the aggregate remaining fund information of the City, which collectively comprise the basic financial statements of the City.
2) Our audit will also express an "in-relation-to" opinion on the combining and individual fund financial statements and supporting schedules, including the Schedule of Expenditures of Federal Awards and State Financial Assistance, as applicable, based on the auditing procedures applied in our audit of the City's basic financial statements.
3) Our audit will include an examination pursuant to *AICPA Professional Standards*, AT Section 601, regarding the City's compliance with the requirements of Section 218.415, Florida Statutes.
4) Our audit will be performed in accordance with U.S. generally accepted accounting principles, including the requirements of the Governmental Accounting Standards Board (GASB), the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, and Chapter 10.550, Rules of the Auditor General and Florida Statutes.
5) Our audit will include certain limited procedures for required supplementary information as required by GASB standards.
6) When applicable, the scope of the financial audit will encompass the additional activities necessary to establish compliance with the Federal *Single Audit Act Amendments of 1996*, U.S. OMB Uniform Guidance (2CFR Part 200) and the *Florida Single Audit Act*.
7) We will prepare the City's annual financial statements and provide the word processing services necessary to complete the Comprehensive Annual Financial Report (CAFR).
8) We will provide technical assistance and advice to the City to meet the reporting requirements of the Government Finance Officers Association Certificate of Achievement for Excellence in Financial Reporting Program.
9) We will provide advice and consultation to the City's Management on routine tax and other matters as requested.

Independence

Caler, Donten, Levine, Cohen, Porter & Veil, P.A. is independent of the City of Boynton Beach, Florida, pursuant to U.S. generally accepted auditing standards and *Government Auditing Standards,* issued by the Comptroller General of the United States. The Firm has provided annual auditing services to the City for the past six years. Neither the Firm nor any of its officers or employees has had any conflicts of interest involving the City of Boynton Beach, Florida, or any of its officials or employees and no member of our engagement team for the City's audit is related to any employee of the City. Our Firm's system of quality control is specifically designed to identify any such professional relationships or potential conflicts and should any arise we agree to provide the City with written notice of any such professional relationships during the term of our engagement with the City.

3. License to Practice in Florida

Caler, Donten, Levine, Cohen, Porter & Veil, P.A. is licensed to practice public accounting in the States of Florida and New York. The Firm has provided continuous certified public accounting services since 1987. The audit partners for the City have provided continuous services with the Firm since 1989. All professional staff participating in the engagement for the City are properly licensed to practice in Florida and a copy of their individual Florida license is included with the detailed resume in Tab 5.

Copies of the Firm's professional license for Florida and Palm Beach County business license are included below.

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
BOARD OF ACCOUNTANCY

LICENSE NUMBER
AD0012987

The ACCOUNTANCY CORPORATION
Named below IS LICENSED
Under the provisions of Chapter 473 FS.
Expiration date: DEC 31, 2017

CALER, DONTEN, LEVINE, COHEN, PORTER & VEIL, P.A.
505 S FLAGLER DR
SUITE 900
WEST PALM BEACH FL 33401

ANNE M. GANNON
CONSTITUTIONAL TAX COLLECTOR
Serving Palm Beach County
Serving *you*.

P.O. Box 3353, West Palm Beach, FL 33402-3353
www.pbctax.com Tel: (561) 355-2264

"LOCATED AT"
505 S FLAGLER DR STE 900
WEST PALM BEACH, FL 33401-5948

TYPE OF BUSINESS	OWNER	CERTIFICATION #	RECEIPT #/DATE PAID	AMT PAID	B.T.I. #
54-1211 ACCOUNTANCY FIRM	CALER DONTEN LEVINE PORTER &	AD0012987	U17.021415 - 07/28/17	300.00	

This document is valid only when receipted by the Tax Collector's Office.

B3 - 220

CALER DONTEN LEVINE COHEN PORTER AND VEIL PA
CALER DONTEN LEVINE COHEN PORTER AND VEIL PA
505 S FLAGLER DR STE 900
WEST PALM BEACH, FL 33401-5948

STATE OF FLORIDA
PALM BEACH COUNTY
2017/2018 LOCAL BUSINESS TAX RECEIPT

LBTR Number: 201004898
EXPIRES: SEPTEMBER 30, 2018

This receipt grants the privilege of engaging in or managing any business profession or occupation within its jurisdiction and MUST be conspicuously displayed at the place of business and in such a manner as to be open to the view of the public.

4. Firm Qualifications and Experience

Firm Background and History

Caler, Donten, Levine, Cohen, Porter & Veil, P.A. was originally formed in 1987 as a small, local CPA firm with five partners and one secretary. In 2017, Caler, Donten & Levine celebrated our 30th anniversary of providing quality, personal service to local governments, non-profit organizations, local businesses and individuals. We are now the leading full service, local CPA firm in Palm Beach County with more than 95 employees. Our office is located at 505 S. Flagler Drive, Suite 900, West Palm Beach, Florida 33401.

Our firm was created by partners with a vision. Each of our partners was associated with one of the "Big Four" international accounting firms but recognized that there was an opportunity to fulfill a need in our community with a new type of firm. Our philosophy is to combine the knowledge and experience of seasoned professionals from an international firm background with the responsiveness and flexibility possible with a local CPA firm. As a client of our firm, you will deal directly with local partners that have the knowledge, experience and authority to answer your questions and make critical decisions.

Our office provides all of the traditional accounting services, including accounting, auditing, tax planning and compliance, consulting, bookkeeping, family office, litigation support and business valuation services. Our depth of local resources allows the Firm to provide a variety of accounting, auditing and tax assistance to City Management beyond the annual audit. This includes advice on new governmental accounting standards and their implementation, answering tax related questions on payroll and employee benefits and any forensic or litigation support consultation or services, should a need ever arise. We purposely committed our resources in these traditional services in order to be able to provide the highest quality service to our clients. We never ventured into areas that might create conflicts of interest, such as investment advisory services, computer hardware and software installation services, insurance services, etc. because our independence and focus on performing quality audit services is of paramount importance.

Our partners are knowledgeable, experienced professionals who will work with you to complete a high quality audit in a timely manner. Our Firm's growth, history and experience with audits of large, local governments similar in size and complexity to the City are a testament to our partners and their dedication to our service philosophy and mission. As the leading local firm in our area, our goal is to provide you with the very best quality service, innovation and personal attention to your specific needs. Our audit partners combine the professionalism and experience gained

through over thirty years supervising governmental audits in the West Palm Beach office of Ernst & Young with the pride, commitment, and responsiveness to your needs that you would expect from local business owners.

Our Professional Staff

The number of staff employed by Caler, Donten & Levine is summarized as follows.

Staff Level	*Total Professional Staff*	*Audit Staff*	*Number of CPAs on Audit Staff*
Partner	13	3	3
Senior Manager/ Manager	14	3	3
Supervisor/Senior	21	5	4
Staff/Administrative	48	4	2
Totals	**96**	**15**	**12**

As a result of the commitment and involvement of our Firm with governmental auditing, all our professional audit staff are experienced with government audit engagements. All audit staff are full-time employees and we do not employ any audit staff on a part-time basis. In addition to the professional staff, we also employ twelve administrative support personnel. Our Firm is an equal opportunity employer and a drug-free workplace.

The following professional staff job descriptions for the Firm provide an indication of the years of professional experience and commitment of our staff. Our audit team for the City will include two partners, a senior manager, a manager, a senior and a staff accountant.

Partner - Our partners are the owners of our Firm. They are the decision makers for all aspects of our professional practice. All of our audit partners are CPAs and have a **minimum of thirty years of professional experience**. They are responsible for all aspects of each engagement and have substantial involvement in the engagement.

Senior Manager/Manager – Senior Managers and Managers are CPAs with a **minimum of ten years of professional experience.** They are responsible for performing audit procedures under the direct supervision of a partner in the field and are knowledgeable and experienced in their practice area.

Supervisor/Senior – Supervisors and Seniors are CPAs or CPA candidates with a **minimum of five years of professional experience.** They are responsible for performing audit procedures under the supervision of a partner or a manager in the field. Supervisors and Seniors have the experience and knowledge to deal effectively with client personnel on routine matters.

Staff - We hire a limited number of highly qualified staff to work closely with our very experienced audit team. Due to the importance we place on the quality of our audit engagements, our staff are generally experienced before they arrive on-site at the City.

Federal/State Reviews and Disciplinary Actions

In our history, the Firm, its partners and our professional staff have ***never*** been the subject of disciplinary actions by any regulatory bodies or professional organizations and have ***never*** received any findings resulting from Federal or State desk reviews or field reviews of our audits.

Litigation Status

In its history, the Firm's professional audit staff have ***never*** been the subject of professional litigation or disciplinary action by the Florida Department of Professional Regulation or any other regulatory body. Further, the Firm has ***never*** received any findings resulting from Federal or State desk reviews or field reviews of our audits. Our professional record is unmatched by any other firm and provides an excellent reference for the quality audit the City has received and will continue to receive from Caler, Donten & Levine.

Quality Control and Peer Review

Caler, Donten & Levine is a member of the American Institute of Certified Public Accountants Private Companies Practice Section, an organization of CPA firms dedicated to maintaining the highest standards of quality.

As a part of this program, each member firm must establish an internal quality control program and submit to an independent peer review every three years. Our quality control program and our governmental audit engagements have been extensively audited by an independent firm in connection with the AICPA's peer review program. Since our inception, Caler, Donten & Levine has received an **unqualified opinion on the quality of our audit practice and government audit engagements, which is the highest level of achievement and recognition in the peer review program.**

In addition, we received no letter of comments for any of our peer reviews in the 30 year history of our Firm. This exceptional achievement means that there were no areas where the peer reviewers recommended improvements in the quality, completeness, or manner in which our audits are performed. In the world of accounting firms, this is equivalent to receiving no management letter comments and no Certificate of Achievement comments covering all our prior years of practice. ***We encourage you to ask other proposers' to share not only their peer review report, but also their peer reviewer comments and recommendations with you.***

In selecting our peer review firm, we searched for the same professionalism, quality, and experience we strive to provide our clients. Our peer review has been performed by Dixon Hughes Goodman (DHG), the largest regional CPA firm in the Southern United States with over 1,700 staff, a member of the AICPA Governmental Audit Quality Center and the Employee

Benefit Plan Audit Quality Center, and a recognized leader in the peer review of CPA firms. The Dixon Hughes Goodman peer review team for our firm included their national partner in charge of governmental audit engagements.

Peer reviews are the only objective, independent examination of a professional auditor's work. While the peer review report may look the same for each firm, the quality of that report is only as good as the peer review firm itself. That is why the AICPA Governmental Audit Quality Center and the Employee Benefit Plan Audit Quality Center both require that a firm's peer review be performed by another member of the Audit Quality Center. This requirement for membership ensures integrity and quality in the peer review. ***We encourage you to consider whether other proposers meet the same high standard of peer review quality as Caler, Donten & Levine with our 30 year record of no comments from a highly experienced and qualified National firm.***

A copy of our 2015 peer review report from DHG appears on the following page.

11 Brendan Way, Suite 200
Greenville, SC 29615
D 864.288.5544
F 864.458.8519
www.dhgllp.com

System Review Report

To the Shareholders of
Caler, Donten, Levine, Cohen, Porter & Veil, P.A.
and the Peer Review Committee of the Florida Institute of CPAs

We have reviewed the system of quality control for the accounting and auditing practice of Caler, Donten, Levine, Cohen, Porter & Veil, P.A. (the firm) in effect for the year ended June 30, 2015. Our peer review was conducted in accordance with the Standards for Performing and Reporting on Peer Reviews established by the Peer Review Board of the American Institute of Certified Public Accountants. As a part of our peer review, we considered reviews by regulatory entities, if applicable, in determining the nature and extent of our procedures. The firm is responsible for designing a system of quality control and complying with it to provide the firm with reasonable assurance of performing and reporting in conformity with applicable professional standards in all material respects. Our responsibility is to express an opinion on the design of the system of quality control and the firm's compliance therewith based on our review. The nature, objectives, scope, limitations of, and the procedures performed in a System Review are described in the standards at www.aicpa.org/prsummary.

As required by the standards, engagements selected for review included engagements performed under *Government Auditing Standards* and audits of employee benefit plans.

In our opinion, the system of quality control for the accounting and auditing practice of Caler, Donten, Levine, Cohen, Porter & Veil, P.A. in effect for the year ended June 30, 2015 has been suitably designed and complied with to provide the firm with reasonable assurance of performing and reporting in conformity with applicable professional standards in all material respects. Firms can receive a rating of *pass*, *pass with deficiency(ies)* or *fail*. Caler, Donten, Levine, Cohen, Porter & Veil, P.A. has received a peer review rating of *pass*.

Dixon Hughes Goodman LLP

December 3, 2015

Professional Associations

The Firm is registered with the Florida Department of Professional Regulation and is a member in good standing of the following professional organizations:

- American Institute of Certified Public Accountants (AICPA)
- AICPA Governmental Audit Quality Center (GAQC)
- AICPA Employee Benefit Plan Audit Quality Center (EBPAQC)
- AICPA Not-for-Profit Membership Section
- AICPA Private Companies Practice Section
- Florida Institute of Certified Public Accountants (FICPA)
- Government Finance Officers Association (GFOA)
- Florida Government Finance Officers Association (FGFOA)
- Association of Government Accountants (AGA)

AICPA Governmental Audit Quality Center (GAQC)

Caler, Donten & Levine has committed to adhere to the highest governmental quality standards as a member of the American Institute of Certified Public Accountants' Governmental Audit Quality Center (the "GAQC") for CPA firms.

The GAQC is a voluntary membership Center for CPA firms that perform governmental audits, including all audits and attestation engagements performed under *Government Auditing Standards* and Single Audits performed under the Uniform Guidance for federal, state, or local governments and not-for-profit organizations; and certain for-profit organizations that receive federal or state financial assistance. The AICPA Governmental Audit Quality Center membership provides its members with access to comprehensive resources on performing quality governmental audits. The GAQC membership provides us with timely information on a variety of technical, legislative and regulatory subjects that we can in turn apply to your audit to help ensure compliance with the appropriate standards and changes in regulations.

As a member of the Governmental Audit Quality Center, we are committed to performing the highest quality governmental audits possible. We demonstrate our commitment by voluntarily agreeing to adhere to the GAQC's significant membership requirements, including designating a partner, Scott Porter, to be responsible for the quality of our governmental audit practice, establishing enhanced quality control programs, performing annual internal inspection procedures, and making our firm's peer review report findings publicly available. Our GAQC membership allows us to continue our quality initiatives within our governmental audit practice and demonstrates our continued commitment to deliver the most efficient quality audit possible to our governmental clients.

5. Partner, Supervisory, and Staff Qualifications and Experience

Engagement Team and Experience

The City of Boynton Beach is managed by knowledgeable professionals with many years of experience and you have a right to expect the same skills from your auditors. Our audit team meets this expectation in one very simple way. Our best and most experienced auditors will continue to perform the City's audit. We are committed to maintaining our current engagement team for the City, not just the "key members", and we will not make any unilateral changes in the team for the full term of our contract with the City.

Our engagement team for the City's audit and their estimated involvement as a percentage of total engagement hours are as follows:

Scott Porter, CPA	Engagement Partner	14%
Mark Veil, CPA	Independent Review Partner	1%
Scott Montgomery, CPA	Audit Senior Manager	20%
Michele Schneider, CPA	Audit Manager	26%
Nick Raiola	Audit Senior	20%
Gary Mann	Audit Advanced Staff	18%
Alan Crowetz	Information Technology Engineer	1%

Our team of experienced professionals performing the audit is the only way to ensure thoroughness and quality, with an efficient audit process that does not waste your time. Our commitment to the highest level of professional staffing on your audit means a very high level of partner and manager time on the City's audit. It also means that our engagement will include a complete and thorough review of the City's financial computer systems, security and internal control by an experienced computer audit specialist.

In our Firm, the most experienced and knowledgeable CPAs are the professionals examining your source documents, transactions and investments. We know what to look for and how to avoid potential problems. Compare the 60+ years of experience of our engagement partners, over 25 years of experience of our senior manager and over 15 years of experience of our manager to other accounting firms using staff with far less experience.

In today's world of audit firms, turnover is a major issue for firms and clients alike. The partner, senior manager and manager of our team, Scott Porter, Scott Montgomery and Michele Schneider will provide continuity and stability of the audit for the City for the entire term of our engagement. **This means that the valuable time of the City's professionals is not wasted on training and re-training new auditors each year.**

Our audit partners for the City, Scott Porter and Mark Veil, also have hands-on audit experience in specialized areas of importance to the City, such as:

- All aspects of Enterprise utility operations, including water and wastewater systems, stormwater systems, golf courses, marinas, solid waste systems, airport, electric utility systems, and building department operations.
- Operation of Self-Insurance internal service funds administering plans covering general liability, workers compensation, property damage, and employee life and health coverages.
- Operation of Vehicle Service and Warehouse internal service funds, including the reallocation and consolidation of internal service fund operating income and loss to the Statement of Activities.
- Municipal bond financing, including general obligation bonds and issues secured by various special revenues, refunding bond issues, bank financings, and interest rate swap agreements.
- Water, wastewater, and governmental capital improvement projects and long-term capital improvement plans, including those financed by bonded debt.
- Pension plans covering police, fire and general employees, including pension trust funds administered by municipalities and the Florida Retirement System, which is important to understanding the GASB reporting requirements for the City's CAFR and how to incorporate disclosures from the City pension plans that are audited by other auditors.
- Other Post Employment Benefit (OPEB) plans, which will become a key consideration when the City adopts GASB Statements No. 74 and 75 in the coming years and must report these liabilities in the government-wide financial statements.
- Federal and State Single Audits of grant awards from nearly every major Federal and State awarding agency.
- Access to a large tax department within our Firm that is qualified to answer all of your tax questions.

Resumes for Our Engagement Team

As you will see from the resumes on the following pages, each member of our team has experience with a diverse range of large and small municipalities and special districts. Most importantly though, is the experience of our seasoned team with audits of local municipalities like the City and the specialized operations of the City's Utility System, three defined benefit pension plans and Community Redevelopment Agency. Combining this specialized experience with the availability of an experienced team working on-site at the City during the audit, means that we will make timely decisions and discuss critical audit issues and recommendations with you as the audit progresses so there are ***no last-minute surprises***.

Each member of our audit team for the City has met ***and exceeds*** the continuing professional education (CPE) requirements established by the American Institute of CPA's, the Florida Board of Accountancy and *Government Auditing Standards*, issued by the Comptroller General of the United States for their most recent individual reporting period. We assure the City that all

members of our audit team will continue to meet the government CPE requirements for the duration of their involvement on the audit.

As partners and owners of our Firm, the City can be assured that our local partners, Scott Porter and Mark Veil, have the authority to make decisions for the City's audit without waiting for approval from another office, perhaps in another county or state. **This means your audit will be completed correctly and timely and you will deal directly with the local partner that makes the decisions for your audit.** This commitment of experienced partner time will continue the quality, consistency and timeliness of the services the City has received in prior years.

SCOTT L. PORTER, CPA, CGFM, CGMA

Audit Engagement Partner

Education

Bachelor of Science in Accounting, Stetson University, Deland, Florida.

Scott is a licensed Florida CPA who began his career with Ernst & Young in West Palm Beach. After 11 years at Ernst & Young, Scott left to be a founding partner of Caler, Donten, Levine, Cohen, Porter & Veil, P.A.

Scott's governmental continuing professional education (CPE) exceeds the requirements of Florida Statutes and *Government Auditing Standards* issued by the Comptroller General of the United States.

Government Audit Experience

Scott's experience with audits of local governments includes the following:

Municipalities	Special Districts and Other Entities
❑ City of Boynton Beach ❑ City of Delray Beach ❑ City of Lake Worth ❑ City of Palm Beach Gardens ❑ City of West Palm Beach ❑ Town of Gulfstream ❑ Town of Juno Beach ❑ Town of Jupiter (including the Jupiter CRA) ❑ Town of Jupiter Island ❑ Town of Lake Park (including the Lake Park CRA) ❑ Town of Palm Beach ❑ Village of North Palm Beach ❑ Village of Palm Springs ❑ Village of Royal Palm Beach ❑ Village of Wellington	❑ Delray Beach Community Redevelopment Agency (CRA) ❑ Children's Services Council of Palm Beach County ❑ Florida Inland Navigation District ❑ Health Care District of Palm Beach County ❑ Housing Finance Authority of Palm Beach County ❑ Palm Beach County Department of Airports ❑ Palm Beach County Water Utilities Department ❑ Solid Waste Authority of Palm Beach County ❑ Treasure Coast Regional Utilities ❑ West Palm Beach Downtown Development Authority

Single Audit Experience

Scott has directed numerous Federal and State Single Audits for our government clients involving the following Federal and State agencies: Department of Environmental Protection, Department of Health and Human Services, Department of Housing and Urban Development, Department of Homeland Security, Department of Interior, Department of Justice, Department of Labor, Department of Transportation, Federal Aviation Administration, **Federal Emergency Management Agency**, and ARRA programs for various Federal agencies.

Professional Associations and Activities

American Institute of Certified Public Accountants
Chartered Global Management Accountant (CGMA)
Florida Institute of Certified Public Accountants
Committee on State and Local Government (past)
Government Finance Officers Association (GFOA)
Special Review Committee for the Certificate of Achievement (past)
Florida Government Finance Officers Association (FGFOA)
Technical Resources Committee (past)
Association of Government Accountants
Certified Government Financial Manager (CGFM)
Palm Beach County Internal Audit Committee (past)
Palm Beach County League of Cities (past)
Palm Beach County Health Care District
Board member 1992 to 2000
Governmental Audit Quality Partner for the Firm
Employee Benefit Plan Audit Quality Partner for the Firm

Continuing Professional Education (CPE)

	CPE Credit Hours
AICPA Designated Partner 2015 Audit Planning	2
AICPA 401(k) Seminar	8
Ethics for Governmental CPAs in Florida 2015	4
Florida GFOA 2015 Annual Conference	13
2015 Annual Government Sector Seminar	8
FGFOA Auditor General Update	2
GFOA Governmental GAAP Update	4
CDL In-house CPE 2015	8
GASB New Pension Standards	2
Internal Control Over Financial Reporting	2
2016 Annual Government Sector Seminar	8
CDL In-house CPE 2016	8
Florida GFOA 2016 Annual Conference	14
PPC Guide to Audits of Local Government-Single Audit	8
GASB Hot Topics	2
Ethics for Governmental CPAs in Florida 2017	4
2017 Annual Government Sector Seminar	8
CDL In-house CPE 2017	8
Florida GFOA 2017 Annual Conference	15
Total CPE – **prior three years**	128

Scott's continuing professional education (CPE) and governmental CPE exceeds all requirements of the AICPA, FICPA, Florida Board of Accountancy and *Government Auditing Standards* issued by the Comptroller General of the United States. Scott has attended **Ethics for Governmental CPAs in Florida.**

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
BOARD OF ACCOUNTANCY

LICENSE NUMBER	
AC0006487	

The CERTIFIED PUBLIC ACCOUNTANT
Named below IS LICENSED
Under the provisions of Chapter 473 FS.
Expiration date: DEC 31, 2018

PORTER, SCOTT LINDSAY
CALER, DONTEN & LEVINE
505 S FLAGLER DR #900
WEST PALM BCH FL 33401-5982

MARK D. VEIL, CPA, CGFM, CGMA

Independent Review Partner

Education

Bachelor of Science in Accounting and Master of Accounting, University of Florida, Gainesville, Florida.

Mark is a licensed Florida CPA who began his career with Ernst & Young in West Palm Beach. After 9 years at Ernst & Young, Mark left to be a founding partner of Caler, Donten, Levine, Cohen, Porter & Veil, P.A.

Mark's governmental continuing professional education (CPE) exceeds the requirements of Florida Statutes and *Government Auditing Standards* issued by the Comptroller General of the United States.

Government Audit Experience

Mark's experience with audits of local governments includes the following:

Municipalities	Special Districts and Other Entities
❑ City of Boynton Beach ❑ City of Delray Beach ❑ City of Lake Worth ❑ City of North Lauderdale ❑ City of West Palm Beach ❑ Town of Gulfstream ❑ Town of Juno Beach ❑ Town of Jupiter (including the Jupiter CRA) ❑ Town of Jupiter Island ❑ Town of Lake Park (including the Lake Park CRA) ❑ Town of Palm Beach ❑ Village of North Palm Beach ❑ Village of Palm Springs ❑ Village of Royal Palm Beach ❑ Village of Wellington	❑ Delray Beach Community Redevelopment Agency (CRA) ❑ Children's Services Council of Palm Beach County ❑ Florida Inland Navigation District ❑ Health Care District of Palm Beach County ❑ Housing Finance Authority of Palm Beach County ❑ Palm Beach County Department of Airports ❑ Palm Beach County Water Utilities Department ❑ Solid Waste Authority of Palm Beach County ❑ Treasure Coast Regional Utilities ❑ West Palm Beach Downtown Development Authority

Single Audit Experience

Mark has directed numerous Federal and State Single Audits for our government clients involving the following Federal and State agencies: Department of Environmental Protection, Department of Health and Human Services, Department of Housing and Urban Development, Department of Interior, Department of Justice, Department of Labor, Department of Transportation, Federal Aviation Administration, Homeland Security, and **Federal Emergency Management Agency.**

Professional Associations and Activities

American Institute of Certified Public Accountants
Chartered Global Management Accountant (CGMA)
Florida Institute of Certified Public Accountants
Past President of the East Coast Chapter
Florida Government Finance Officers Association (FGFOA)
Association of Government Accountants
Certified Government Financial Manager (CGFM)
Max Planck Audit Committee
Northern Palm Beaches Chamber of Commerce
Member of Board of Directors, Past President
Palm Beach County League of Cities (past)
Junior Achievement of the Palm Beaches and Treasure Coast, Treasurer
Port of Palm Beach Audit Committee
Professional and Business Forum
Leukemia and Lymphoma Society, Past President - Palm Beach Chapter
City of Palm Beach Gardens Budget Oversight Committee

Continuing Professional Education (CPE)

	CPE Credit Hours
Accounting and Auditing Seminar	8
Planning a Governmental Audit Engagement	8
2015 Government Sector Seminar	8
Ethics for Governmental CPAs in Florida 2015	4
Florida GFOA 2015 Annual Conference	13
2015 CDL In-House CPE	8
2016 Government Sector Seminar	8
Florida GFOA 2016 Annual Conference	17
2016 CDL In-House CPE	8
Using the Work of Specialists and CPAs	2
Single Audit Fundamentals	8
2017 CDL In-House CPE	8
2017 Government Sector Seminar	8
Risk Assessment Procedures and Planning for Local Governments	8
Ethics for Governmental CPAs in Florida 2017	4
Florida GFOA 2017 Annual Conference	15
Total CPE – **prior three years**	135

Mark's continuing professional education (CPE) and governmental CPE exceeds all requirements of the AICPA, FICPA, Florida Board of Accountancy and *Government Auditing Standards* issued by the Comptroller General of the United States. Mark has attended **Ethics for Governmental CPAs in Florida.**

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
BOARD OF ACCOUNTANCY

LICENSE NUMBER	
AC0010492	

The CERTIFIED PUBLIC ACCOUNTANT
Named below IS LICENSED
Under the provisions of Chapter 473 FS.
Expiration date: DEC 31, 2018

VEIL, MARK D
107 WOODSMUIR CT
PALM BCH GDNS FL 33418

Scott T. Montgomery, CPA
Audit Senior Manager

Education

Bachelor of Business Administration (BBA) with highest honors in Accounting, St. Mary's University of San Antonio, Texas and Master of Taxation (MT), Baylor University, Waco, Texas.

Scott is a CPA licensed in Florida and Texas since 1988. Scott has met the continuing professional education (CPE) requirements of the Florida Board of Accountancy, American Institute of Certified Public Accountants and *Government Auditing Standards*.

Government Audit Experience

Scott's experience with audits of local governments includes the following:

Municipalities	Special Districts and Other Entities
❑ City of Boynton Beach ❑ City of Delray Beach ❑ Town of Jupiter ❑ City of Miami ❑ City of Palm Beach Gardens ❑ Village of Palm Springs ❑ Village of Royal Palm Beach ❑ Village of Wellington	❑ Delray Beach Community Redevelopment Agency (CRA) ❑ Children's Services Council of Palm Beach County ❑ Glades County ❑ Martin County ❑ Palm Beach County Water Utilities Department ❑ Solid Waste Authority of Palm Beach County ❑ West Palm Beach Downtown Development Authority

Single Audit Experience

Scott has directed numerous Federal and State Single Audits for our government clients involving the following Federal and State agencies: Department of Environmental Protection, Department of Health and Human Services, Department of Housing and Urban Development, Department of Homeland Security, Department of Justice, Department of Labor, Department of Transportation, Federal Aviation Administration, **Federal Emergency Management Agency**, and ARRA programs for various Federal agencies.

Professional Associations and Activities

American Institute of Certified Public Accountants
Florida Institute of Certified Public Accountants (FICPA)
FICPA Committee on Accounting Principles and Auditing Standards, Past Committee Member
Government Finance Officers Association (GFOA), Special Review Committee for Certificate of Achievement Program
Florida Government Finance Officers Association (FGFOA)
Housing Leadership Council of Palm Beach County, Treasurer
Capri West Condominium Association, President
Poinciana West Condominium Association, Treasurer
Palmland Villas Homeowners Association, Treasurer

Continuing Professional Education (CPE)

	CPE Credit Hours
FGFOA Annual Conference 2015	14
Ethics for Governmental CPAs in Florida 2015	4
Applying OMB A-133 to Governmental Organizations	8
Financial Entries for New Pension Standards	1
Audit Workflow	2
Guide to Preparing for GASB 67 & 68	1
Implementation of GASB 67 & 68	1
GASB's New Pension Standards	2
2015 CDL In-house CPE Training	8
South Florida Government Conference 2015	8
FGFOA Annual Conference 2016	22
South Florida Government Conference 2016	8
Risk Management 2016	2
2016 CDL In-house CPE Training	8
Crowe Horwath GASB 67 & 68 Changes	2
2017 CDL In-house CPE Training	8
South Florida Government Conference 2017	8
Ethics for Governmental CPAs in Florida 2017	4
FGFOA Annual Conference 2017	17
Total CPE – **prior three years**	128

Scott's continuing professional education (CPE) and governmental CPE exceeds all requirements of the AICPA, FICPA, Florida Board of Accountancy and *Government Auditing Standards* issued by the Comptroller General of the United States. Scott has attended **Ethics for Governmental CPAs in Florida.**

STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
BOARD OF ACCOUNTANCY

LICENSE NUMBER
AC5001857

The CERTIFIED PUBLIC ACCOUNTANT
Named below IS LICENSED
Under the provisions of Chapter 473 FS.
Expiration date: DEC 31, 2017

MONTGOMERY, SCOTT T
6428 LANSDOWNE CIRCLE
BOYNTON BEACH FL 33472

Michele Schneider, CPA
Audit Manager

Education

Bachelor of Science in Accounting and Master of Accounting, University of Florida, Gainesville, Florida.

Michele is a CPA licensed in Florida. Michele has met the continuing professional education (CPE) requirements of the Florida Board of Accountancy and American Institute of Certified Public Accountants.

Michele was the Chief Financial Officer for a not-for-profit organization located in South Florida for a six year period.

Government Audit Experience

Michele has worked as an auditor with CPA firms over a fourteen year period performing governmental audits. Since Michele joined our firm in 2007, her experience with audits of governments includes the following:

Municipalities	Special Districts and Other Entities
❑ City of Boynton Beach ❑ Town of Palm Beach ❑ Village of Palm Springs ❑ Village of Wellington	❑ Delray Beach Community Redevelopment Agency (CRA) ❑ Housing Finance Authority of Palm Beach County ❑ Palm Beach County Water Utilities Department ❑ Solid Waste Authority of Palm Beach County ❑ West Palm Beach Downtown Development Authority ❑ Children's Services Council of Palm Beach County ❑ Health Care District of Palm Beach County

Single Audit Experience

Michele has supervised numerous Federal and State Single Audits for our government clients involving the following Federal and State agencies: Department of Environmental Protection, Department of Health and Human Services, Department of Housing and Urban Development, Department of Homeland Security, Department of Justice, Department of Transportation, and **Federal Emergency Management Agency**.

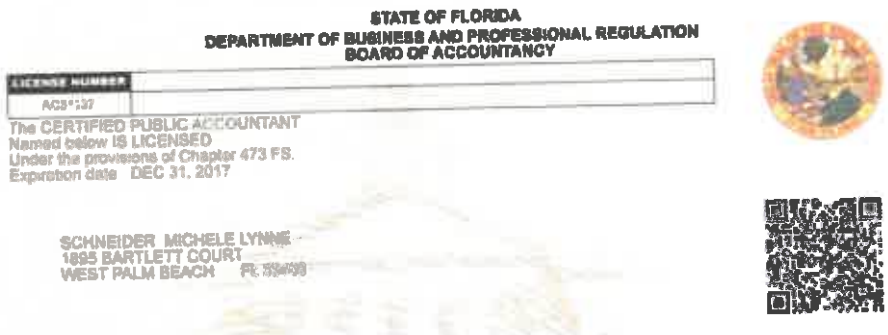
Professional Associations and Activities

American Institute of Certified Public Accountants
Chartered Global Management Accountant (CGMA)
Florida Institute of Certified Public Accountants
Florida Government Finance Officers Association
Leadership West Palm Beach – Class of 2016

Continuing Professional Education (CPE)

	CPE Credit Hours
Renewed Focus on Audit	2
2015 Florida CPE Seminar	8
South Florida Government Conference 2015	8
CDL In-House CPE 2015	8
FGFOA Conference 2015	13
Ethics for Governmental CPAs in Florida 2015	4
Fair Value Measurements for Nonprofits	2
Advanced OMB Circular A-133 Issues	6
2015 FICPA University of Florida Accounting Conference	16
South Florida Government Conference 2016	8
CDL In-House CPE 2016	10
FGFOA Conference 2016	14
2016 GASB Update	4
Excel for Auditors	1
South Florida Government Conference 2017	8
FGFOA Conference 2017	14
Ethics for Governmental CPAs in Florida 2017	4
CDL In-House CPE 2017	9
Risk Assessment: Not-for-Profit Governance and Assurance	1
Budget Considerations for Non-Profits	2
Aligning Mission and Strategy: NFP Governance	1
Total CPE – **prior three years**	143

Michele's continuing professional education (CPE) and governmental CPE exceeds all requirements of the AICPA, FICPA, Florida Board of Accountancy and *Government Auditing Standards* issued by the Comptroller General of the United States. Michele has attended **Ethics for Governmental CPAs in Florida**.


STATE OF FLORIDA
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION
BOARD OF ACCOUNTANCY

LICENSE NUMBER
AC31137

The CERTIFIED PUBLIC ACCOUNTANT
Named below IS LICENSED
Under the provisions of Chapter 473 FS.
Expiration date DEC 31, 2017

SCHNEIDER MICHELE LYNNE
1895 BARTLETT COURT
WEST PALM BEACH FL 33409

CDL

Alan Crowetz, MBA, MCSE, MCSA, MCP

Information Technology IT Engineer

Professional Profile

Alan is the President and CEO of InfoStream, Inc., a computer and business-consulting firm based in West Palm Beach, Florida. InfoStream serves a variety of government agencies, not-for-profit organizations, businesses, and individuals both in South Florida and internationally. InfoStream has been a featured company on Microsoft's Pinpoint.com and has a perfect 5 Star ranking on the world's largest independent computer engineer listing service. InfoStream is also listed as a Top 100 Global MSP Small Business according to MSPMentor.

Alan has been associated with Caler, Donten & Levine since the Firm's founding and has performed IT audits with the Firm for the past 15 years.

Education

Masters in Business Administration, Palm Beach Atlantic University, West Palm Beach, Florida.

Alan is a Microsoft Certified Systems Engineer (MCSE) and has passed the National Association of Securities Dealers Series 7 test. He also holds numerous advanced engineering and security certifications as well as being an expert on the internet.

Government Audit Experience

Alan's experience with IT audits for local governments includes the following:

Municipalities	Special Districts and Other Entities
❑ City of Boynton Beach ❑ City of Delray Beach ❑ Town of Jupiter ❑ Town of Palm Beach ❑ Village of Palm Springs ❑ Village of Royal Palm Beach ❑ Village of Wellington	❑ Children's Services Council of Palm Beach County ❑ Health Care District of Palm Beach County ❑ Delray Beach Community Redevelopment Agency (CRA) ❑ Palm Beach County Water Utilities Department ❑ Solid Waste Authority of Palm Beach County

Professional Associations and Activities

Alan is an active member of the Board of Advisors for Palm Beach Atlantic University's Rinker School of Business. He is also a member of the Palm Beach IT Group and regular speaker for professional and civic groups.

Qualified by Palm Beach County Circuit Court as an expert witness on IT issues.

Continuing Professional Education (CPE)

Regularly attends multi-day, on premise conferences hosted by leading experts in IT, Cloud, Security, Infrastructure, Disaster Recovery, Storage, Servers and others.

Frequently attends vendor boot camps and training session on advanced IT topics.

Routinely takes required training and testing to attain advanced certifications in managed services, cloud services, security, business continuity, network servers and infrastructure, wifi, IT auditing and PCI Compliance.

Frequent speaker at local civic club meetings and events including Rotary and not-for-profit organizations.

Publishes technical articles and solutions on regular basis.

Active contributor with dozens of journals, blogs and books.

Main presenter for the Palm Beach IT Group on Remote Monitoring and Management and 24/7 uptime.

Maintains active partnership with Microsoft and all corresponding educational materials and certifications/tests.

Maintains active partnership with Cisco and all corresponding educational materials and certifications/tests.

Maintains active preferred partnership level with Dell and all corresponding educational materials and certifications/tests.

Maintains active partnership with Sonicwall and all corresponding educational materials and certifications/tests.

Maintains active partnership with Meraki and all corresponding educational materials and certifications/tests.

6. Prior Engagements with the City of Boynton Beach

For the past six years, Caler Donten & Levine performed a financial and compliance audit of the City of Boynton Beach, Florida, pursuant to our selection following the City's request for proposal due December 12, 2011. The scope of work for each year consisted of auditing the City's Comprehensive Annual Financial Report (CAFR), a Single Audit of the City's Federal and State grant programs (if required), and preparation of the compliance reports required by Chapter 10.550, Rules of the Auditor General. Scott Porter was the engagement partner and Mark Veil was the independent review partner for each annual audit. All audit services were provided by our single office in West Palm Beach, Florida. The principal City contact for each engagement was Mr. Tim Howard, assistant City Manager.

Caler Donten & Levine did not perform any management advisory, consulting or other services during the term of our prior contract.

7. Similar Engagements with Other Government Entities

Current Government Audit Clients

We are very proud to be the auditors for the following government organizations in our area. The size and diversity of these governments provide a wide range of experience, but equally as important, is the date of our first engagement for these clients, indicated in parenthesis. Our long association with our clients, some since our founding in 1987, is an indication of the quality, professionalism and service we provide. As local business owners, we are committed to long-term relationships with audit clients in our local community.

- City of Boynton Beach (2011)
- City of Delray Beach (2004)
- Town of Juno Beach (1987)
- Town of Jupiter (1994)
- Village of Palm Springs (2002)
- Village of Royal Palm Beach (1993)
- Children's Services Council of Palm Beach County (2015)
- Palm Beach County Airport/Water Utilities (2006)
- Palm Beach County Housing Finance Authority (2001)
- Delray Beach Community Redevelopment Agency (1990)
- West Palm Beach Downtown Development Authority (2007)

In addition to our current clients, our partners also directed audits for the following local governments over the course of their professional careers.

- Town of Gulf Stream
- Town of Jupiter Island
- Town of Lake Park
- Town of Palm Beach
- Village of North Palm Beach
- Village of Wellington
- City of Lake Worth
- City of North Lauderdale
- City of Palm Beach Gardens
- City of Pembroke Pines
- City of West Palm Beach
- Florida Inland Navigation District
- Health Care District of Palm Beach County
- Solid Waste Authority of Palm Beach County

Single Audit Experience

Due to the large number of audits we perform annually for local governments, our Firm and our engagement team for the City have years of experience performing Federal and State Single Audits in accordance with the Federal *Single Audit Act Amendments of 1996*, U.S. OMB Uniform Guidance (2CFR Part 200) and the *Florida Single Audit Act*. In fact, our experience dates to the initial years the Federal and State Single Audit Acts were adopted.

Our experience includes Single Audits of grant awards from nearly every major Federal and State awarding agency, including the following:

Federal Agencies

- Department of Agriculture
- Department of Defense
- Department of Education
- Department of Energy
- Department of Housing and Urban Development
- Department of Health and Human Services
- Department of Homeland Security
- Department of Interior
- Department of Justice
- Department of Labor
- Department of Transportation
- Department of Treasury
- Environmental Protection Agency
- Federal Aviation Administration
- **Federal Emergency Management Agency**
- Forestry Service
- National Archives and Records Administration
- National Endowment for the Humanities

State Agencies

- Department of Children and Families
- Department of Community Affairs
- Department of Corrections
- Department of Elder Affairs
- Department of Education
- Department of Environmental Protection
- Department of Health
- Department of Highway Safety and Motor Vehicles
- Department of Law Enforcement
- Department of State
- Department of Transportation
- Florida Housing Finance Corporation (SHIP)

Of particular importance to the City, **our engagement team has experience with the Single Audit of the major and state federal awards received by the City in recent years:** U.S. Department of Housing and Urban Development Community Development Block Grants (CDBG) and the Florida Housing Finance Corporation State Housing Initiatives Partnership Program. We are experienced with the requirements of a Single Audit and the major programs the City is likely to have in the future, such as Federal Emergency Management Agency (FEMA) grants for Hurricane Irma.

Certificate of Achievement

The Certificate of Achievement is the highest recognition of achievement in governmental accounting and financial reporting. As part of the financial statement preparation and review process for the City, we will review each section of the CAFR for compliance with the requirements of the Certificate Program. During the past 30 years, we have assisted local municipalities in attaining and maintaining the GFOA Certificate of Achievement for Excellence in Financial Reporting. Our partners' experience includes audits for the following local government clients of our Firm that currently hold a Certificate of Achievement:

- City of Delray Beach
- Town of Juno Beach
- Town of Jupiter
- Town of Palm Beach
- Village of Palm Springs
- Village of Royal Palm Beach
- Village of Wellington
- Children's Services Council of Palm Beach County
- Palm Beach County Water Utilities
- Solid Waste Authority of Palm Beach County
- Health Care District of Palm Beach County

We are very proud that during our audit engagements for these local governments, **each has received *successive* Certificates of Achievement.** This impressive record is a direct result of the commitment of our partners to local government and the Certificate of Achievement Program. The participation and success of the City of Boynton Beach in the Certificate of Achievement Program will be a high priority for the members of our engagement team. Scott Montgomery is a current member of the Special Review Committee. Scott Porter was a member of the Special Review Committee for the Certificate Program for ten years.

Experience With Computerized Accounting Systems

Our partners have an extensive background and range of experience with computerized systems. In connection with the audits of local governments we have hands-on experience with large mainframe systems and smaller network systems for the following:

- City of Boynton Beach
- City of Delray Beach
- Town of Juno Beach
- Town of Jupiter
- Town of Palm Beach
- Village of Palm Springs
- Village of Royal Palm Beach
- Village of Wellington
- Children's Services Council of Palm Beach County
- Solid Waste Authority of Palm Beach County
- Health Care District of Palm Beach County

These systems have incorporated a diverse range of software used to process transactions for cash receipts, purchasing and accounts payable, payroll and related benefits, utility billing systems and fixed asset accounting and depreciation systems.

Most important to the City of Boynton Beach, we have the prior knowledge and audit experience with *both* the AS400 computer *and* SunGard HTE software used by the City. This experience includes the City of Boynton Beach, City of Delray Beach, Town of Jupiter and the Village of Royal Palm Beach.

Our Firm's computer audit specialist has performed an annual, detailed evaluation of the City's computer systems, security, and internal controls as an integral part of our audit for the prior six years. We recognize that in today's electronic environment, it is essential that the auditor understand the specific computer software, security protocols, and internal controls over the computer systems within the government that is being audited.

We will perform an annual evaluation of the City's computer systems and our knowledge of these systems and the SunGard HTE software will be critical to designing an effective and efficient audit for the City. ***We will audit the critical internal controls over your computer systems, not just the reports produced by the system.***

We encourage you to ask other firms if they have a dedicated, knowledgeable computer specialist with the technical skills necessary to evaluate the City's complex information systems.

Experience With Utility Billing Systems

Caler, Donten & Levine currently audits five major municipal/county water and wastewater utility systems in our area:

- City of Boynton Beach Utility System
- City of Delray Beach Utility System
- Town of Jupiter Utility System
- Village of Palm Springs Utility System
- Palm Beach County Water Utility System

In addition to our current clients, our partners have also directed audits of the following utility systems over the course of their professional careers:

- City of Lake Worth Water and Sewer System
- City of Lake Worth Electric System
- City of Pembroke Pines Water and Sewer System
- City of West Palm Beach Water and Sewer System
- Village of Royal Palm Beach Utility System

Client References

The following engagements represent a cross-section of the governmental audits our partners have performed that are similar in scope and complexity to the audit of the City of Boynton Beach. We sincerely hope that the City has an opportunity to contact these local governments to ask them about our knowledge, experience and commitment to personal service.

Engagement/ Engagement Partner	Scope of Work	Date	Principal Client Contact
City of Boynton Beach Partner: Scott Porter	Financial Statement Audit Water and Wastewater Single Audit Bond Compliance Management Letter	2011 to present	Mr. Tim Howard Assistant City Manager 100 E Boynton Beach Boulevard Boynton Beach, FL 33435 (561) 742-6311
City of Delray Beach (Certificate of Achievement) Partner: Scott Porter	Financial Statement Audit Water and Wastewater Single Audit Bond Compliance Management Letter	2004 to present	Ms. Laura Thezine, CPA Acting Finance Director 100 NW 1st Avenue Delray Beach, FL 33444 (561) 243-7115
Town of Jupiter (Certificate of Achievement) Partner: Scott Porter	Financial Statement Audit Water and Sewer Utility Single Audit Bond Compliance Management Letter	1994 to present	Mr. Michael Villella, CPA Finance Director 210 Military Trail Jupiter, FL 33458 (561) 746-5134
Village of Palm Springs (Certificate of Achievement) Partner: Scott Porter	Financial Statement Audit Water and Sewer Utility Bond Compliance Management Letter	2002 to present	Ms. Rebecca Morse Finance Director 226 Cypress Lane Palm Springs, FL 33461 (561) 965-4013
Village of Royal Palm Beach (Certificate of Achievement) Partner: Mark Veil	Financial Statement Audit Bond Compliance Management Letter	1993 to present	Mr. Stanley Hochman Finance Director 1050 R.P.B. Boulevard Royal Palm Beach, FL 33411 (561) 790-5112

Sample Comprehensive Annual Financial Reports

Sample copies of the 2016 Comprehensive Annual Financial Reports for the City of Delray Beach, Town of Jupiter, Village of Palm Springs and Village of Royal Palm Beach may be obtained online at the links below.

- City of Delray Beach
  http://www.mydelraybeach.com/departments/finance/comprehensive_annual_financial_report_(cafr).php
- Town of Jupiter
  http://www.jupiter.fl.us/ArchiveCenter/ViewFile/Item/526
- Village of Palm Springs
  http://www.villageofpalmsprings.org/ArchiveCenter/ViewFile/Item/294
- Village of Royal Palm Beach
  http://fl-royalpalmbeach.civicplus.com/DocumentCenter/View/8612

8. Specific Audit Approach

a. Segmentation of Audit Procedures

Our audit approach for the City of Boynton Beach will be segmented into a four-phase process that is tailored specifically to the accounting system and internal controls of the City. These phases are as follows:

Phase 1 — Information gathering and preliminary planning
Phase 2 — Audit program development
Phase 3 — Internal control testing and year-end fieldwork
Phase 4 — Report preparation and review

The *first phase* of our audit approach involves information gathering and development of our preliminary audit plan. We will meet with the Director and Deputy Director of Financial Services to obtain their input into the audit process and address any concerns for the current year. We will update our information and documentation about the City's computer system, its internal control systems, its operations, and its key people. We will review the prior year financial statements; the current year budget; organization charts; policies, procedures, and programs; and financial and other management information systems. We will perform preliminary analytical procedures to identify variances from the current budget and changes from the prior year. We will review the City's Code of Ordinances and debt agreements to identify any new material items to test for compliance. Finally, we will formalize our work-plan with the Director and Deputy Director of Financial Services and schedule the specific dates and tasks to be completed.

The *second phase* of our audit approach involves the development of our formal audit program. Based upon the information gathered in the first phase, we will prepare an audit program that is specifically tailored to the City and the transactions that have occurred during the year under audit. Many of our audit procedures will be the same as in prior years, while some will change as the systems and operations of the City change and some procedures will change to provide an element of unpredictability. Since the audit program is prepared by an audit partner and senior manager with significant knowledge of the City and substantial governmental audit experience, you can be assured that it will be an effective and efficient approach to the audit of the City. During this phase we will work with the Deputy Director of Financial Services to coordinate the schedules and confirmations to be prepared for the audit. We will also review schedules that your staff prepared for the prior audit or on an ongoing basis to determine which of these schedules may be combined or eliminated, thus eliminating duplicate work.

The *third phase* comprehends the actual interim and year-end fieldwork. The interim fieldwork consists mainly of the testing of the internal control systems, samples of transactions and grant program transactions. After the initial year's audit, our interim fieldwork will be performed in August, September or October as best accommodates your schedule. The year-end fieldwork will consist of year-end tests of balances, compliance testing and confirmation procedures. After the initial year's audit, this process will commence in early December when your books will be

closed and the year-end schedules completed. We expect our year end fieldwork to be four to five weeks and will provide all final journal entries to the City by the end of January. Should the City desire any changes in the proposed audit schedule, we will work with you to accommodate your needs.

The ***fourth phase*** of our audit approach involves the preparation and review of the various audit reports comprising your audit. We will prepare the City's financial statements and prepare the compliance reports, Single Audit reports (if required), and management letter based on the information gathered during our audit procedures. Then, a partner who hasn't worked on the engagement will independently review these reports for completeness and accuracy. Next, we will review the final drafts with you and incorporate your comments before issuing the final reports. This process will be completed so that your reports will be issued by the March 31st deadline for submission to the Certificate of Achievement Program.

b. Staff Assigned to Audit Segments

The information gathering and planning phase of the City's audit will include substantial partner and manager involvement in the planning and audit program development. The tests of transactions will be performed by the audit staff and senior and reviewed by the manager and partner. The year-end substantive tests will be performed by all members of the engagement team with substantial partner and manager involvement in critical or high risk audit areas, such as investments and debt.

c. Sample Sizes and Statistical Sampling

AICPA Statements on Auditing Standards and the AICPA Audit and Accounting Guides, *State and Local Government, Government Auditing Standards and Single Audits,* and *Audit Sampling*, establish the requirements and provide suggestions on the use of sampling in governmental audit engagements.

In applying these authoritative pronouncements to a governmental audit engagement, four distinct types of audit tests may involve the use of audit sampling, as follows:

- Substantive tests of balance sheet account balances
- Substantive tests of details of transactions
- Tests of controls
- Tests of general compliance with laws, policies, and regulations
- Single Audit compliance testing

Substantive tests of balance sheet account balances would generally involve year end confirmation of balances and sample size would be dependent upon the account balance and the relative dollar amount of the individual accounts. Generally, we combine confirmation and other substantive tests of balances to achieve an acceptable level of reliability.

Substantive tests of details of transactions and tests of controls are usually combined into a "dual purpose test" utilizing the same sample of transactions. For example, we would select a sample of expenditures and test the transaction amounts by agreement to the general ledger postings. We would also test the controls, such as purchase order and approval requirements, related to the same expenditure. We anticipate the following tests and sample sizes as part of our audit of the City:

❑ Governmental fund revenues	25 transactions
❑ Utility billing and revenue	25 transactions
❑ Expenditures	60 transactions
❑ Payroll	40 transactions

All samples will be selected randomly from the total population of transactions during the year. For example, expenditures may be selected randomly from all check numbers issued during the year. We utilize an audit software program that randomly selects check numbers from the check series used during the year.

Tests of general compliance and Single Audit compliance testing are discussed in detail later in Section 8.h., *Compliance Audit Sample Selection.*

d. Computerized Audit Software

As a firm we are committed to advancing the efficiency of our work through the use of the latest computer technology. Automating our audit process has benefited our clients by reducing the staff and clerical time on the engagement, thereby providing more partner time to address the substantive issues of the audit, and saving money on fees. Accordingly, we have made a substantial investment in computer hardware and software for a firm of our size.

All audit staff currently use laptop computers and the ProSystem *fx* paperless audit software as an integral part of all of our audit planning and fieldwork procedures. Through the use of portable computers, we are able to utilize information from client records and audit programs more efficiently in preparing workpapers and financial statements. Some of the applications we will use for the City include the following:

- Audit schedule management software that provides for seamless document coordination and encrypted data transfer of your schedules, information and other data to CDL for the audit.
- Paperless audit software for trial balance and financial statement applications allowing efficient electronic summarization into audit lead schedules, posting of adjustments, preparation of financial statements, and various analytical review tools.

- RIA CheckPoint, is our comprehensive on-line database of research materials with a full suite of publications from the Governmental Accounting Standards Board (GASB), Financial Accounting Standards Board (FASB), Emerging Issues Task Force and American Institute of Certified Public Accountants.
- Wireless internet portals allowing full internet access to our research materials, email or web portals for the transfer of documents.
- The latest versions of spreadsheet software allowing compatibility with client worksheets and easy updates of data for multi-year analytical review.
- Standard electronic audit workpapers for various applications such as analytical review, property and equipment, and related depreciation, debt schedules, loan covenants, and rate covenant reviews.
- Software to determine random sample selections and sample sizes.
- Software for preparation and editing of audit programs, audit workpapers, and functions, such as confirmation control.
- Data extraction software for testing critical accounts and balances.

The numerous electronic workpapers and spreadsheets we will prepare for the City may be updated easily and quickly, to allow us to meet your future timetable with the minimum amount of disruption to your daily operations.

e. Analytical Procedures

AICPA Statements on Auditing Standards require the auditor to apply analytical procedures as an overall review of financial information in the final stage of the audit. While the Statement does not specify any particular analytical procedures, our audit approach utilizes procedures that focus on the overall relationships within the basic financial statements. We also apply similar financial statement analytical procedures during the preliminary planning phase of the audit to identify any unusual or unexpected relationships that may warrant further investigation.

During the course of the year-end fieldwork we utilize analytical review procedures to support the results of our other audit procedures. For example, in the testing of revenue and expenditures we would apply analytical procedures by comparing current year and prior year actual balances and comparing current year actual amounts to budgeted amounts. Any unusual or unexpected variations would be considered for further testing.

f. Documentation of Internal Control

AICPA Statements on Auditing Standards define the elements of an entity's internal control and describe how the auditor should consider the internal controls in planning and performing an audit. The auditor is required to obtain an understanding about the design of policies and procedures and whether they have been placed in operation by the entity.

Generally, our approach to obtaining an understanding of and documenting internal controls includes the following methods:

- Observation of activities and operations
- Inspection of documents and records
- Inquiry of appropriate management, supervisory and staff personnel

For each of the major control systems, such as purchasing and cash disbursements, we will perform a "walk through" of a transaction from its inception until a check is prepared for final payment. We will develop our documentation of the control system using narratives that incorporate copies of forms and sign-off procedures. This process would be repeated for each major control system of the City.

For computerized systems, we will perform a review of the City's general controls by evaluating system documentation, security, access, maintenance, and reliability of reports. Our local, independent IT specialist will provide the highly technical services for the IT evaluation.

g. Legal Compliance Documentation

Generally, legal compliance criteria can be found in Florida law, rules, grant agreements, local ordinances, resolutions, policies, contracts and similar documents. In connection with our Firm's governmental audit practice, we maintain a legal compliance audit program of significant requirements of Florida Statutes related to municipalities. This legal compliance program is updated annually for amendments to the Florida Statutes.

Specific legal compliance criteria related to the City of Boynton Beach is the basis for a legal compliance audit program of the significant compliance requirements we identify by a review of the City Ordinances and Charter. We will also consider the written policies and procedures, such as a purchasing manual, followed by management in the course of day-to-day operations.

As contracts, resolutions, and similar documents are identified by inquiry of management and our audit procedures, any additional legal compliance requirements would also be added to the compliance audit program. All compliance audit programs are updated annually during our preliminary planning process.

Scott Porter was a member of the FICPA Committee on State and Local Government that developed the FICPA practice aid ***Compliance Auditing in Florida*** that established the compliance criteria now followed by government auditors in Florida.

h. Compliance Audit Sample Selection

The samples selected for testing legal compliance criteria will generally be incorporated with the random samples selected for testing transactions and internal controls. Other more specific legal requirements, such as contractual requirements, may be tested by selecting judgmental samples. Although legal compliance testing is generally not as extensive as tests of account balances and internal controls, we plan to support all major compliance requirements by a sample or workpaper analysis. The specific sample selections for compliance are discussed in detail below.

Tests of general compliance with laws, policies, and regulations would usually be incorporated with samples selected for tests of transactions and internal controls as discussed in Section 8.c., *Sample Sizes and Statistical Sampling*. Other criteria to be tested, such as compliance with specific laws, may involve selecting a separate random sample of specific transactions and testing the supporting documentation for compliance with Florida Statutes or City Ordinances. The sample sizes will depend on the number of transactions in the total population and the significance of the compliance requirement. Generally, the compliance sample sizes are 25 transactions or less.

Single Audit compliance testing will be designed in accordance with the sampling and risk criteria specified in the AICPA Audit Guides *State and Local Governments* and *Government Auditing Standards and Single Audits*. Generally this will result in a minimum sample size of 60 items to achieve the high level of assurance required by Single Audit standards for major program testing of large populations over 250 items. The Single Audit compliance samples will be incorporated with the random samples selected for transaction and internal control testing to create dual purpose tests and reduce the overall testing and documentation required from the City, to the minimum necessary to meet the Single Audit standards.

9. Identification of Anticipated Potential Audit Problems

Based on our historical knowledge of the City and the City's 2016 CAFR, we do not anticipate any significant potential audit problems. As the City's auditors for the previous six years, we have made consistent updates to the financial statements and note disclosures to comply with changes in GASB Standards and, equally as important, to comply with the additional requirements of the Certificate of Achievement Program, so the City will be able to seamlessly apply for the Certificate without major changes to the CAFR.

There are several new GASB Statements (No. 74, 75, 77, 78, 79 and 80) that will be effective for the City's fiscal year ending September 30, 2017. GASB Statements No. 74 and 75 that address Other Post Employment Benefit (OPEB) plans, will be the most significant of the new standards affecting the City. Based on our knowledge of the City and the new standards, we do not anticipate any major challenges in the implementation of the new GASB standards.

The City's pension plans covering police, fire and general employees, are audited by other auditors and accordingly, require special considerations, including specific audit procedures and communications with the other auditors to incorporate the pension information into the City's CAFR. We are familiar with the specific AICPA auditing procedures applicable to the component auditors, as well as the GASB reporting requirements for the pension plans reported in the City's CAFR and how to incorporate disclosures from the City pension plans that are audited by other auditors.

In summary, our history of quality service for the City has incorporated the required disclosures and audit procedures to comply with GAAP and to prepare for submission of the City's CAFR to the Certificate of Achievement Program.

10. Price Proposal

We have provided a total all-inclusive maximum price in the attached Price Proposal Form A for the proposed independent audit services outlined in the Scope of Work. The total all-inclusive maximum price includes all direct and indirect costs including all out-of-pocket expenses. We do not expect any out-of-pocket expenses for travel, lodging and subsistence under Section 112.061, Florida Statutes, to be reimbursed because all our audit team members are local professionals. In the event that any future non-audit professional services may require reimbursement for travel, lodging and subsistence reimbursement, such expenses will be submitted to the City pursuant to Section 112.061, Florida Statutes.

Our quoted fee is based on anticipated continued cooperation and schedule preparation from the City's personnel and the assumption that there are no unexpected circumstances or new entities that require additional accounting assistance or significant auditing procedures or changes, such as new accounting or auditing standards, new major funds or a Federal or State Single Audit. If any additional services are necessary or are requested by the City during the term of the contract, we will provide those services at the discounted hourly rates quoted in Price Proposal Form B. ***Our discounted hourly rates quoted in Price Proposal Form B are the same hourly rates in effect for the prior six years as quoted in our original proposal in 2011.***

Our invoices will be rendered monthly as the work progresses. If we incur less time at our standard hourly rates than the above fees, we will bill you only for our actual time.

Scott L. Porter, Shareholder

REQUEST FOR PROPOSAL
FOR
FINANCIAL AUDITING SERVICES
RFP No.: 072-1410-17/IT

PRICE PROPOSAL FORM A (TOTAL ALL INCLUSIVE PRICE)

A total all-inclusive maximum price is requested for the services described herein. The total price bid must contain all direct and indirect costs including all out-of-pocket expenses.

PRICE FOR FISCAL YEAR 2017	$106.725
PRICE FOR FISCAL YEAR 2018	$106.725
PRICE FOR FISCAL YEAR 2019	$106.725
GRAND TOTAL PRICE FOR FINANCIAL AUDTING SERVICES (3 YEARS)	$320.175

Caler, Donten, Levine, Cohen, Porter & Veil, P.A.
COMPANY NAME

(561) 832-9292
TELEPHONE NO.

sporter@cdlcpa.com
E-MAIL ADDRESS

AUTHORIZED SIGNATURE

Scott L. Porter
PRINTED NAME

Shareholder
TITLE

September 22, 2017
DATE

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

CDL

REQUEST FOR PROPOSAL
FOR
FINANCIAL AUDITING SERVICES
RFP No.: 072-1410-17/IT

PRICE PROPOSAL FORM B (SCHEDULE OF PROFESSIONAL FEES AND EXPENSES)

	HOURS	STD. HOURLY RATES	QUOTED HOURLY RATES	TOTAL QUOTE
PARTNERS	115	$ 320	$ 225	$ 25,875
MANAGERS	150	230	170	25,500
SUPERVISORY STAFF	195	180	130	25,350
OTHER STAFF (SPECIFY)	300	140	100	30,000
SUBTOTAL	760			$ 106,725

Other Expenses: (Specify)

None

TOTAL PRICE FOR FISCAL YEAR 2017 $ 106,725

Note: The rate quoted should not be presented as a general percentage of the standard hourly rate or as a gross deduction form the total price.

Caler, Donten, Levine, Cohen, Porter & Veil, P.A.
COMPANY NAME

AUTHORIZED SIGNATURE

(561) 832-9292
TELEPHONE NO.

Scott L. Porter
PRINTED NAME

sporter@cdlcpa.com
E-MAIL ADDRESS

Shareholder
TITLE

September 22, 2017
DATE

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

11. Submittal Forms

The City's required Submittal Forms are included as follows:

	Page
Proposer Acknowledgment	49
Addenda	50
Statement of Qualifications	53
References	55
Anti-Kickback Affidavit	56
Non Collusion Affidavit of Prime Qualifier	57
Confirmation of Minority Owned Business	58
Confirmation of Drug-Free Workplace	59
Acknowledgment of Palm Beach County Inspector General	60
Schedule of Sub-Consultants	61
Statement of No Proposal	N/A
Caler, Donten, Levine, Cohen, Porter & Veil, P.A. W-9 form	62

CDL

REQUEST FOR PROPOSAL
FOR
FINANCIAL AUDITING SERVICES
RFP No.: 072-1410-17/IT

PROPOSER ACKNOWLEDGEMENT

Submit RFP's To: PROCUREMENT SERVICES
100 E. Boynton Beach Boulevard
P.O. Box 310
Boynton Beach, Florida 33425-0310
Telephone: (561) 742-6322

RFP Title: FINANCIAL AUDITING SERVICES

RFP Number: 072-1410-17/IT

RFP Received By: SEPTEMBER 15, 2017, NO LATER THAN 2:30 P.M.

RFP's will be opened in Procurement Services unless specified otherwise. RFP receiving date and time is scheduled for: **SEPTEMBER 15, 2017, NO LATER THAN 2:30 P.M. (LOCAL TIME)** and may not be withdrawn within ninety (90) days after such date and time.

All awards made as a result of this RFP shall conform to applicable sections of the charter and codes of the City.

Name of Professional: Scott L. Porter, CPA, Shareholder
Caler, Donten, Levine, Cohen, Porter & Veil, P.A.

Federal I.D. Number: 59-2831281

A Corporation of the State of: Florida

Area Code: 561 Telephone Number: 832-9292

Area Code: 561 FAX Number: 803-4641

Mailing Address: 505 South Flagler Drive, Suite 900

City/State/Zip: West Palm Beach, Florida 33401

E-mail Address: Florida

Authorized Signature

Scott L. Porter
Name Typed

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

A D D E N D A

CITY OF BOYNTON BEACH
FLORIDA

RFP TITLE: "FINANCIAL AUDITING SERVICES"

RFP NO.: 072-1410-17/IT

DATE SUBMITTED: September 22, 2017

We propose and agree, if this submittal is accepted, to contract with the City of Boynton Beach, in the Contract Form, to furnish all material, means of transportation, coordination, labor and services necessary to complete/provide the work specified by the Contract documents.

Having studied the documents prepared by: THE CITY OF BOYNTON BEACH

we propose to perform the work of this Project according to the Contract documents and the following addenda which we have received:

ADDENDUM	DATE	ADDENDUM	DATE
No. 1	09/05/2017		
No. 2	09/14/2017		

☐ NO ADDENDUM WAS RECEIVED IN CONNECTION WITH THIS BID

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

CDL

The City of Boynton Beach

Finance/Procurement Services
100 E. Boynton Beach Boulevard
P. O. Box 310
Boynton Beach, Florida 33425-0310
Telephone: (561) 742-6310
FAX: (561) 742-6316

ACKNOWLEDGEMENT OF ADDENDUM No. 1
"FINANCIAL AUDITING SERVICES"

RFP No.: 072-1410-17/IT

RESPONDENT MUST SIGN, DATE AND INCLUDE THIS "ACKNOWLEDGEMENT OF ADDENDUM NO. 1 WITH RFP PACKAGE FOR SUBMITTAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

Scott L. Porter	
PRINT NAME OF REPRESENTATIVE	SIGNATURE OF REPRESENTATIVE
Caler, Donten, Levine, Cohen, Porter & Veil, P.A.	September 22, 2017
NAME OF COMPANY	DATE

CDL

The City of Boynton Beach

Finance/Procurement Services
100 E. Boynton Beach Boulevard
P. O. Box 310
Boynton Beach, Florida 33425-0310
Telephone: (561) 742-6310
FAX: (561) 742-6316

ACKNOWLEDGEMENT OF ADDENDUM No. 2
"FINANCIAL AUDITING SERVICES"

RFP No.: 072-1410-17/IT

RESPONDENT MUST SIGN, DATE AND INCLUDE THIS "ACKNOWLEDGEMENT OF ADDENDUM NO. 2 WITH RFP PACKAGE FOR SUBMITTAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

Scott L. Porter	
PRINT NAME OF REPRESENTATIVE	SIGNATURE OF REPRESENTATIVE
Caler Donten Levine Cohen Porter & Veil P.A.	September 22 2017
NAME OF COMPANY	DATE

STATEMENT OF QUALIFICATIONS

Each qualifier proposing on work included in these General Documents shall prepare and submit the data requested in the following schedule of information.

This data must be included in and made part of each RFP document. Failure to comply with this instruction may be regarded as justification for rejecting the RFP response.

* attach additional sheets giving the information

1. Name of Qualifier: Caler, Donten, Levine, Cohen, Porter & Veil, P.A.
2. Business Address: 505 South Flagler Drive
   Suite 900
   West Palm Beach, Florida 33401
3. When Organized: 1987
4. Where Incorporated: Florida
5. How many years have you been engaged in business under the present firm name?
   CDL has been in business 30 years and 5 years under the present firm name. The current firm name was adopted in 2012 with the addition of a new equity shareholder.
6. General character of work performed by your company.
   Accounting, auditing and tax services
7. Enclose evidence of possession of required licenses and/or business permits. See Proposal Tabs 3 and 5
8. Number of employees. 96
9. Background and experience of principal members of your personnel, including officers. See Proposal Tab 5
10. Bonding capacity, if applicable. Not applicable
11. Have you ever defaulted on a contract? If so, where and why?*
    CDL has never defaulted on any contract

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

CDL

12. Experience in performance of work similar in importance to this project.

Project	$ Value	Contact Name	Phone #
City of Delray Beach	121,300	Ms. Laura Thezine	(561) 243-7115
City of Boynton Beach	106,690	Mr. Tim Howard	(561) 742-6311
Town of Jupiter	77,690	Mr. Michael Villella	(561) 746-5134
Village of Palm Springs	51,400	Ms. Rebecca Morse	(561) 965-4013

13. Contracts on hand. * See page 32 for a list of current government contracts.

14. Largest completed projects (include final cost).

1) City of Delray Beach $121,300
2) City of Boynton Beach $106,690
3) Town of Jupiter $77,690

15. List all lawsuits (related to similar projects) or arbitration to which you have been a party and which: *

1) arose from performance: * None
2) occurred within the last 4 years: * None
3) provide case number and style: * N/A

Dated at: West Palm Beach, Florida

this 22 day of September 2017

By: _____
(written signature)

Name: Scott L. Porter
(printed or typed)

Title: Shareholder

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE

RFP No. 072-1410-17/IT

REFERENCES FOR Caler, Donten, Levine, Cohen, Porter & Veil, P.A. (NAME OF FIRM)			
Company Name:	City of Delray Beach		
Address:	100 NW 1st Avenue		
	Delray Beach, Florida 33444		
Contact Name:	Ms.Laura Thezine, CPA		
Phone: (561) 243-7115	Fax: (561) 243-7166	E-Mail:	thezinel@mydelraybeach.com
Company Name:	Town of Jupiter		
Address:	210 Military Trail		
	Jupiter, Florida 33458		
Contact Name:	Mr. Michael Villella, CPA		
Phone: (561) 741-2218	Fax: (561) 741-0926	E-Mail:	michaelv@jupiter.fl.us
Company Name:	Village of Palm Springs		
Address:	226 Cypress Lane		
	Palm Springs, Florida 33461		
Contact Name:	Ms. Rebecca L. Morse, CGFO, CPFO		
Phone: (561) 965-4013	Fax: (561) 304-4615	E-Mail:	rmorse@vpsfl.org
Company Name:	Village of Royal Palm Beach		
Address:	1050 Royal Palm Beach Boulevard		
	Royal Palm Beach, Florida 33411		
Contact Name:	Mr. Stanley Hochman		
Phone: (561) 790-5112	Fax: (561) 790-5174	E-Mail:	shochman@royalpalmbeach.com

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

CDL

ANTI-KICKBACK AFFIDAVIT

STATE OF FLORIDA)
: SS
COUNTY OF PALM BEACH)

I, the undersigned hereby duly sworn, depose and say that no portion of the sum herein submitted will be paid to any employees of the City of Boynton Beach as a commission, kickback, reward of gift, directly or indirectly by me or any member of my firm or by an officer of the corporation.

By: _____
NAME - SIGNATURE

Sworn and subscribed before me
this 22 day of September, 20 17

Printed Information:

Scott L. Porter
NAME

Shareholder
TITLE

Andrea Rossi
NOTARY PUBLIC, State of Florida
at Large

Caler, Donten, Levine, Cohen, Porter & Veil, P.A.
COMPANY

ANDREA ROSSI
MY COMMISSION # FF900606
EXPIRES: July 16, 2019

"OFFICIAL NOTARY SEAL" STAMP

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE

RFP No. 072-1410-17/IT

CDL

NON COLLUSION AFFIDAVIT OF PRIME QUALIFIER

State of Florida)
:
County of Palm Beach)

Scott L. Porter, being first duly sworn, deposes and says that:

1) He/She is Shareholder (Title) of Colar, Dontan, Levine, Cohen, Porter & Veil, P.A., (Name of Corporation or Firm) the qualifier who has submitted the attached RFP No. 072-1410-17/IT for FINANCIAL AUDITING SERVICES

2) He/She is fully informed respecting the preparation and contents of the attached submittal and of all pertinent circumstances respecting such submittal;

3) Said RFP is genuine and is not a collusive or sham RFP;

4) Further, the said qualifier nor any of its officers, partners, owners, agents, representatives, employees or parties in interest, including this affiant, has in any way colluded, conspired, connived or agreed, directly or indirectly with any other qualifier, firm or person to submit a collusive or sham RFP in connection with the Contract for which the attached RFP has been submitted or to refrain from bidding in connection with such Contract, or has in any manner, directly or indirectly, sought by agreement or collusion or communications or conference with any other qualifier, firm or person to fix the price or prices in the attached RFP or of any other qualifier, or to fix any overhead, profit or cost element of the RFP price or the RFP price of any other qualifier, or to secure through any collusion, conspiracy, connivance or unlawful agreement any advantage against the City of Boynton Beach or any person interested in the proposed Contract; and

5) The price or prices quoted in the attached bid are fair and proper and are not tainted by any collusion, conspiracy, connivance or unlawful agreement on the part of the qualifier or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

(Signed) _____

(Title) Shareholder

Andrea Rossi

Subscribed and sworn to before me

This 22 day of September, 20 17

My commission expires July 16, 2019

ANDREA ROSSI
MY COMMISSION # FF900606
EXPIRES: July 16, 2019

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

CDL

CONFIRMATION OF MINORITY OWNED BUSINESS

A requested form to be made a part of our files for future use and information. Please fill out and indicate in the appropriate spaces provided which category best describes your company. Return this form with your bid proposal sheet making it an official part of your bid response.

Is your company a Minority Owned Business ?

_____ Yes X No

If Yes, please indicate by an "X" in the appropriate box:

( ) AMERICAN INDIAN

( ) ASIAN

( ) BLACK

( ) HISPANIC

( ) WOMEN

( ) OTHER _____ (specify)

( ) NOT APPLICABLE

Do you possess a Certification qualifying your business as a Minority Owned Business?

YES _____ NO _X_

If YES, Name the Organization from which this certification was obtained and date:

_____
Issuing Organization for Certification

_____
Date of Certification

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

CONFIRMATION OF DRUG-FREE WORKPLACE

IDENTICAL TIE SUBMITTALS

Preference shall be given to businesses with drug-free workplace programs. Whenever two or more submittals which are equal with respect to price, quality, and service are received by the City of Boynton Beach or by any political subdivision for the procurement of commodities or contractual services, a submittal received from a business that certifies that it has implemented a drug-free workplace program shall be given preference in the award process. Established procedures for processing tie submittals will be followed if none of the tied Professionals have a drug-free workplace program. In order to have a drug-free workplace program, a business shall:

1) Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.

2) Inform employees about the dangers of drug abuse in the workplace, the business's policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.

3) Give each employee engaged in providing the commodities or contractual services that are under submittal a copy of the statement specified in subsection (1).

4) In the statement specified in subsection (1), notify the employee that, as a condition of working on the commodities or contractual services that are under submittal, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or *nolo contendere* to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than 5 days after such conviction.

5) Impose a sanction on, or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employee's community by, any employee who is so convicted.

6) Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

Professional's Signature

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

PALM BEACH COUNTY INSPECTOR GENERAL

ACKNOWLEDGMENT

The Contractor is aware that the Inspector General of Palm Beach County has the authority to investigate and audit matters relating to the negotiation and performance of this contract, and in furtherance thereof may demand and obtain records and testimony from the Contractor and its subcontractors and lower tier subcontractors.

The contractor understands and agrees that in addition to all other remedies and consequences provided by law, the failure of the Contractor or its subcontractors or lower tier subcontractors to fully cooperate with the Inspector General when requested may be deemed by the municipality to be a material breach of this contract justifying its termination.

Caler, Donten, Levine, Cohen, Porter & Veil, P.A.
CONTRACTOR NAME

By _____

Scott L. Porter
Title: Shareholder

Date: September 22, 2017

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

FINANCIAL AUDITING SERVICES
RFP No.: 072-1410-17/IT

SCHEDULE OF SUB-CONSULTANTS

The Undersigned Bidder proposes the following major subcontractors for the major areas of work for the Project. The Bidder is further notified that all sub-contractors shall be properly licensed, bondable and shall be required to furnish the City with a Certificate of Insurance in accordance with the contract general conditions. This page may be reproduced for listing additional sub-contractors, if required.

Name of Sub-Consultant	Address of Sub-Consultant	License No.:	Contract Amount	Percentage (%) of Contract
None				

Signature _____ Date: September 22, 2017

Title/Company Shareholder / Caler, Donten, Levine, Cohen, Porter & Veil, P.A.

Owner reserves the right to reject any sub-contractor who has previously failed in the proper performance of an award, or failed to deliver on time contracts in a similar nature, or who is not responsible(financial capability, lack of resources, etc.) to perform under this award. Owner reserves the right to inspect all facilities of any sub-contractor in order to make a determination as to the foregoing.

THIS PAGE TO BE SUBMITTED FOR PROPOSAL TO BE CONSIDERED COMPLETE AND ACCEPTABLE.

RFP No. 072-1410-17/IT

CDL

Form **W-9**
(Rev. December 2014)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See Specific Instructions on page 2.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.
Caler, Donten, Levine, Cohen, Porter & Vell P.A.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification; check only one of the following seven boxes:
☐ Individual/sole proprietor or single-member LLC ☑ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate
☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶
Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.
☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):
Exempt payee code (if any)
Exemption from FATCA reporting code (if any)
(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)
505 South Flagler Dr., Suite 900

Requester's name and address (optional)

6 City, state, and ZIP code
West Palm Beach, FL 33401

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number
___ - ___ - ____

or

Employer identification number
5 9 - 2 8 3 1 2 8 1

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here Signature of U.S. person ▶ [signature] Date ▶ 3/20/15

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at *www.irs.gov/fw9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-112 - Authorize the City Manager to sign a support agreement with Public Safety Software solution from Spillman Technologies, Inc. and to sign financing documents with Motorola Solutions Credit Company, LLC to finance the purchase price.

EXPLANATION OF REQUEST:
On January 10, 2017, Procurement Services opened nine (9) proposals in response to the Request for Proposals for "Public Safety Software." This RFP was issued to secure a Computer Aided Dispatch/Records Management solution that would provide the Police Department with a single platform for reporting, traffic crash reports, citations, crime analysis, computer aided dispatch and evidence.

On May 16, 2017, the initial ranking meeting was held. After evaluation and scoring, the Committee shortlisted three (3) firms: MobileTec International, Spillman Technologies, Inc. and Superion, formerly known as Sungard. In accordance with the process outlined in the RFP, these 3 firms and their teams were invited to demonstrate their proposed solution to the Committee.

On June 20-22, 2017, demonstrations were held with these three shortlisted firms.

On June 23, 2017, a final evaluation and ranking meeting was held. After evaluation and scoring, the Committee ranked Spillman Technologies, Inc. as the first-ranked firm.

On August 15, 2017, the City Commission approved the final ranking recommended by the Selection Committee and authorized the City Staff to negotiate and an Agreement with Spillman Technologies, Inc. that would be brought back to the City Commission for approval.

Two (2) Sunshine Meetings were held with Spillman Technologies, Inc. to negotiate an agreement: October 12 and October 16, 2017. These meetings were attended by representatives of Spillman Technologies and included staff from the Police Department and Purchasing Services.

The initial proposal was revised to reflect other elements of the project required to have a complete and functional public safety software system that were not originally included in the scope. Those elements include: TraCS Accident Interface, TraCS Citation Interface and additional computer hardware and storage required for system functionality. The total revised proposal, including first-year maintenance and support was $1,113,420. Staff was able to negotiate a total revised proposal of $925,000; a savings to the City of $188,420 as compared to the original proposal.

The proposed system includes first-year maintenance and support; however, in order to maintain the continuity of operations and system functionality, support will be required for subsequent years. The initial proposal for support and maintenance cost for year two (2) was $120,423, City Staff was able to negotiate a five (5) year maintenance agreement for years two (2) thru six (6) with a fixed 3% annual increase with a year two (2) cost of $85,849.17. The cost for annual maintenance and support on the system will be budgeted in the departmental operating budget in the appropriate year:

Year 1	Included
Year 2	$85,849.17

Year 3 $88,424.65
Year 4 $91,077.39
Year 5 $93,809.71
Year 6 $96,624.00

Spillman has included an option to finance the purchase price with Motorola Solutions Credit Company, LLC. The initial offer was a 3.79% for four (4) years, staff was able to negotiate that to 3.57% which equates to approximately $818 savings per year.

Staff is recommending to finance the purchase price of $925,000 with Motorola Solutions Credit Company, LLC with the following terms:
Down payment: $350,000
Amt Financed: $575,000
Term: 4 years, 1st pymt due 1 year after contract execution
Interest Rate: 3.57%
Annual Payment: $156,804.63

As a result of the negotiations, Spillman Technologies has requested that the City participate in their Motorola Solutions VIP Program as a strategic partner in the Palm Beach, Broward and Miami-Dade Counties. The marketing efforts will focus on the Spillman Flex Public Safety Software. Staff is agreeable to being a strategic partner with Spillman and as part requests the ability for Spillman to utilize the City's logo and other public information in the marketing efforts.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
The current Computer Aided Dispatch/Records Management System (CAD/RMS) is antiquated, labor intensive and inefficient. Approval of this request will allow the Police Department to save valuable time during call taking/dispatching of calls for services allowing more efficiency department wide. In addition, the Department will be able to share/pool information with neighboring agencies contributing to regional intelligence gathering and increasing its case clearance.

FISCAL IMPACT: Budgeted
Funds were budgeted in the FY16/17 and FY17/18 Capital Improvement Plan under account 302-4119-580-64-14; Project IT1701. The project was included in the CIP at an amount of $190,640 per year for six (6) years, for an estimated total project cost of $1,143,840.

ALTERNATIVES:
Alternatives to this action would be to not approve the negotiated agreement and direct staff to renegotiate with Spillman Technologies; or should negotiations fail with Spillman, declare an impasse and proceed in negotiating a new contract with the second-ranked firm, Superion.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Resolution	Resolution approving Spillman Technologies
Agreement	DRAFT AGREEMENT - SPILLMAN TECHNOLOGIES, INC.
Agreement	DRAFT AGREEMENT - SPILLMAN TECHNOLOGIES, INC.
Agreement	ATTCHMT - SPILLMAN PURCHASE AND LICENSE AGREEMENT
Exhibit	EXHIBIT A - MAINTENANCE AND SUPPORT AGRMT
Exhibit	EXHIBIT B - PURCHASED PRODUCTS AND SERVICES
Attachment	MOTOROLA SOLUTIONS FINANCING PROPOSAL
Attachment	MOTOROLA SOLUTIONS SAMPLE AGRMT

RESOLUTION NO. R17 -

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, AUTHORIZING THE CITY MANAGER TO SIGN REQUIRED DOCUMENTS UPON CITY ATTORNEY REVIEW AND APPROVAL FOR THE PURCHASE, INSTALLATION, IMPLEMENTATION, TRAINING AND SUPPORT OF A PUBLIC SAFETY SOFTWARE SOLUTION FROM SPILLMAN TECHNOLOGIES, INC., OF SALT LAKE CITY, UT IN THE AMOUNT OF $925,000; APPROVE THE MAINTENANCE AND SUPPORT AGREEMENT FOR YEARS TWO THROUGH SIX; APPROVE FINANCING DOCUMENTS WITH MOTOROLA SOLUTIONS CREDIT COMPANY, LLC., TO FINANCE THE PURCHASE PRICE OF $925,000 LESS A $350,000 DOWN PAYMENT FOR FOUR YEARS FOR AN ANNUAL PAYMENT OF $156,804.63; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, on January 10, 2017, Procurement Services opened nine (9) proposals in response to the Request for Proposals for "Public Safety Software" which was issued to secure a Computer Aided Dispatch/Records Management solution that would provide the Police Department with a single platform for reporting, traffic crash reports, citations, crime analysis, computer aided dispatch and evidence; and

WHEREAS, on May 16, 2017, the initial ranking meeting was held and after evaluation and scoring the Committee shortlisted three (3) firms; and

WHEREAS, the City Commission approved the final ranking recommended by the selection committee on August 15, 2017 and authorized City Staff to negotiate an Agreement with Spillman Technologies, Inc., to be brought back to the City Commission for approval; and

WHEREAS, staff has recommended that the City Commission approve and authorize the City Manager to sign documents to be reviewed and approved by the City Attorney for the purchase, installation, implementation, training and support of a Public Safety Software

solution from Spillman Technologies, Inc., of Salt Lake City, UT in the amount of $925,000; approve maintenance and support agreement for years two through six; financing documents with Motorola Solutions Credit Company, LLC., to finance the purchase price of (25,000 less a $350,000 down payment for four years with an interest rate of 3.57% for an annual payment of $156,804.63; and to participate in the Motorola Solutions VIP Program as a strategic partner in marketing efforts that may include logos and other public information about the City.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof.

Section 2. The City Commission of the City of Boynton Beach, Florida, hereby authorizes and directs the City Manager to sign documents to be reviewed and approved by the City Attorney for the purchase, installation, implementation, training and support of a Public Safety Software solution from Spillman Technologies, Inc., of Salt Lake City, UT in the amount of $925,000; approve maintenance and support agreement for years two through six; financing documents with Motorola Solutions Credit Company, LLC., to finance the purchase price of (25,000 less a $350,000 down payment for four years with an interest rate of 3.57% for an annual payment of $156,804.63; and to participate in the Motorola Solutions VIP Program as a strategic partner in marketing efforts that may include logos and other public information about the City.

Section 3. This Resolution shall become effective immediately upon passage.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(City Seal)

AGREEMENT BETWEEN THE CITY OF BOYNTON BEACH AND SPILLMAN TECHNOLOGIES, INC.

THIS AGREEMENT is entered into between the City of Boynton Beach, hereinafter referred to as "the City", and **SPILLMAN TECHNOLOGIES, INC.**, hereinafter referred to as "VENDOR", in consideration of the mutual benefits, terms, and conditions hereinafter specified.

1. PROJECT DESIGNATION: PUBLIC SAFETY SOFTWARE .

2. SCOPE OF SERVICES. Vendor agrees to perform the services as outlined in RFP No. 007-2110-17/JMA, and incorporated herein: Price Proposal (pages __ to __ of the RFP). "No modifications will be made to the original scope of work without the written approval of the City Manager or her designee.

3. TIME FOR PERFORMANCE. Work under this agreement shall commence upon written notice by the City to the VENDOR to proceed. Vendor shall perform all services and provide all work product required pursuant to this agreement upon written notice to proceed.

4. TERM: This Agreement shall be for a period of _____commencing on _____ This Agreement may be renewed at the same terms, conditions, and prices, for two (2) subsequent one-year periods subject to Vendor's acceptance, satisfactory performance, and determination that renewal will be in the best interest of the City.

5. PAYMENT. The Vendor shall be paid by the City for completed work and for services rendered under this agreement as follows:

   a. Payment for the work provided by Vendor shall be made promptly on all invoices submitted to the City properly and in accordance with "PRICE PROPOSAL" (Exhibit "A").

   b. The Vendor may submit invoices to the City once per month during the progress of the contract term. Such invoices will be reviewed by the City, and upon approval thereof, payment will be made to the Vendor in the amount approved.

   c. Final payment of any balance due the Vendor of the total price earned will be made promptly upon its ascertainment and verification by the City after the completion of the work under this Agreement and its acceptance by the City.

   d. Payment as provided in this section by the City shall be full compensation for work performed, services rendered and for all materials, supplies, equipment and incidentals necessary to complete the work.

   e. The Vendor's records and accounts pertaining to this agreement are to be kept available for inspection by representatives of the City and State for a period of three (3) years after the termination of the Agreement. Copies shall be made available upon request.

6. OWNERSHIP AND USE OF DOCUMENTS. All documents, and other materials produced by the Vendor in connection with the services rendered under this Agreement shall be the property of the City.

7. COMPLIANCE WITH LAWS. Vendor shall, in performing the services contemplated by this Agreement, faithfully observe and comply with all federal, state and local laws, ordinances and regulations that are applicable to the services to be rendered under this agreement.

Commented [TI1]: Can we refer to and incorporate Spillman's Exhibits A & B here?

Commented [TI2]: Can we simply refer to and incorporate Spillman's License and Software Agreement, Exhibit A here?

Commented [TI3]: We are contemplating: $185K w/ signing, $185K w/ implementation and financing the balance thru Motorola for a 3-5 yr. term.

Commented [TI4]: Exhibits A & B?

~~INDEMNIFICATION.~~ ~~8.~~ **Indemnification.**

A. General Indemnification. Spillman agrees to defend, indemnify and hold harmless, the City of Boynton Beach, Florida, its officers, commissioners, employees, and agents and volunteers agents who are users of the Software furnished, against any and all claims arising from any personal injuries, death, or damages to tangible property caused by the negligence or willful misconduct of Spillman, its agents or employees, and Spillman will pay any final judgment or amounts agreed in settlement, including, any reasonable attorneys' fees, costs and expenses. The foregoing excludes any claims related to the functionality or use of, or bugs or errors in, the Software provided by Spillman, which shall be governed solely by the terms of Spillman's license agreement. The City shall provide reasonable notice to Spillman after receipt by the City of any claim, suit or action against the City arising directly or indirectly from the operations of Spillman hereunder, for which the City may be entitled to a defense or indemnity by Spillman, under the provisions of this Contract. Spillman shall have the right to control the defense of any such claim, suit, or actions. The City shall provide such information and assistance as is necessary to enable Spillman to defend, compromise or settle such claim. Spillman shall also be liable to the City for all reasonable costs, expenses, attorneys' fees and damages which may be incurred or sustained by the City by reason of Spillman's breach of any of the provisions of the contract.

Commented [TI5]: Legal has already approved this language. It's also incorporated into Spillman's License and Software Agreement.

A. Intellectual Property Spillman agrees to defend Customer against any and all third party claims, demands, lawsuits or legal actions arising out of any actual or alleged infringement of any U.S. copyright, or patent misappropriation of trade secret or trademark, by the Software furnished, and Spillman will pay any damages, costs and expenses (including reasonable attorneys' fees) finally awarded in such action or paid to settle the action.

Spillman will not be required to indemnify Customer unless (i) Customer promptly notifies Spillman of any such claim; (ii) Customer gives Spillman sole control of the defense and all settlement negotiations, and the authority to represent Customer in defending the claim; and (iii) Customer provides Spillman with any information and assistance that Spillman reasonably requests in defending against the claim. Customer may, at its option and expense, be represented by separate counsel in any such action. If a court or other legal authority finds that any part of the Software infringes on a third party's intellectual property rights, or if Spillman believes that it infringes, Spillman will use reasonable efforts to obtain a license under the rights that have been infringed, to modify the Software so it is no longer infringing, or to provide to Customer substitute software that is non-infringing; provided that if in Spillman's judgment such options are not commercially reasonable, Spillman may terminate the license for the Software or the infringing portion thereof upon written notice to Customer. Spillman will have no liability for

infringement arising out of modification of the Software by any party other than Spillman, use of an outdated version of the Software, or the combination or use of the Software with any other software, hardware, equipment, product, or process not furnished by Spillman, if use of the Software alone and in its current, unmodified form would not have been an infringement. Spillman is not liable for any infringement claims based upon Third Party Software or hardware. This Section 11.7 states Spillman's entire obligation with respect to any claim for infringement or misappropriation of any third party intellectual property rights.

8. Vendor shall indemnify, defend and hold harmless the City, its offices, agents and employees, from and against any and all claims, losses or liability, or any portion thereof, including fees and costs, arising from injury or death to persons, including injuries, sickness, disease or death to Vendor's own employees, or damage to property occasioned by a negligent act, omission or failure of the Vendor.

9. INSURANCE. The Vendor shall secure and maintain in force throughout the duration of this contract comprehensive general liability insurance, including Products Liability with a minimum coverage of $1,000,000 per occurrence and $1,000,000 aggregate for personal injury; and $1,000,000 per occurrence/aggregate for property damage, and Vendor liability insurance in the amount of $1,000,000 per ~~occurrence~~ claim to $2 million aggregate with defense costs in addition to limits; workers' compensation insurance, and vehicular liability insurance.

   Said general liability policy shall name the City of Boynton Beach as an "additional named insured" and shall include a provision prohibiting cancellation of said policy except upon thirty (30) days prior written notice to the City. Certificates of coverage as required by this section shall be delivered to the City within fifteen (15) days of execution of this agreement.

Commented [TI6]: Revisions to insurance have already been approved/accepted by Risk Management.

10. INDEPENDENT CONTRACTOR. The Vendor and the City agree that the Vendor is an independent contractor with respect to the services provided pursuant to this agreement. Nothing in this agreement shall be considered to create the relationship of employer and employee between the parties hereto. Neither Vendor nor any employee of Vendor shall be entitled to any benefits accorded City employees by virtue of the services provided under this agreement. The City shall not be responsible for withholding or otherwise deducting federal income tax or social security or for contributing to the state industrial insurance program, otherwise assuming the duties of an employer with respect to Vendor, or any employee of Vendor.

11. COVENANT AGAINST CONTINGENT FEES. The Vendor warrants that he has not employed or retained any company or person, other than a *bona fide* employee working solely for the Vendor, to solicit or secure this contract, and that he has not paid or agreed to pay any company or person, other than a *bona fide* employee working solely for the Vendor, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this contract.

    For breach or violation of this warranty, the City shall have the right to annul this contract without liability or, in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

12. DISCRIMINATION PROHIBITED. The Vendor, with regard to the work performed by it under this agreement, will not discriminate on the grounds of race, color, national origin, religion, creed, age, sex or the presence of any physical or sensory handicap in the selection and retention of employees or procurement of materials or supplies.

13. ASSIGNMENT. The Vendor shall not sublet or assign any of the services covered by this Agreement without the express written consent of the City.

14. NON-WAIVER. Waiver by the City of any provision of this Agreement or any time limitation provided for in this Agreement shall not constitute a waiver of any other provision.

15. TERMINATION.

a. The City reserves the right to terminate this Agreement at any time by giving ten (10) days written notice to the Vendor.

b. In the event of the death of a member, partner or officer of the Vendor, or any of its supervisory personnel assigned to the project, the surviving members of the Vendor hereby agree to complete the work under the terms of this Agreement, if requested to do so by the City. This section shall not be a bar to renegotiations of this Agreement between surviving members of the Vendor and the City, if the City so chooses.

16. DISPUTES. Any disputes that arise between the parties with respect to the performance of this Agreement, which cannot be resolved through negotiations, shall be submitted to a court of competent jurisdiction in Palm Beach County, Florida. This Agreement shall be construed under Florida Law.

17. NOTICES. Notices to the City of Boynton Beach shall be sent to the following address:

Lori LaVerriere, City Manager
City of Boynton Beach
P.O. Box 310
Boynton Beach, FL 33425-0310

Notices to Vendor shall be sent to the following address:

SPILLMAN TECHNOLOGIES, INC.
4625 LAKE PARK BLVD.
SALT LAKE CITY, UTAH 84120

18. INTEGRATED AGREEMENT. This agreement, together with attachments or addenda, represents the entire and integrated agreement between the City and the Vendor and supersedes all prior negotiations, representations, or agreements written or oral. This agreement may be amended only by written instrument signed by both City and Vendor.

19. PUBLIC RECORDS. Sealed documents received by the City in response to an invitation are exempt from public records disclosure until thirty (30) days after the opening of the Bid unless the City announces intent to award sooner, in accordance with Florida Statutes 119.07.

The City is public agency subject to Chapter 119, Florida Statutes. The Contractor shall comply with Florida's Public Records Law. Specifically, the Contractor shall:

A. Keep and maintain public records required by the CITY to perform the service;

B. Upon request from the CITY's custodian of public records, provide the CITY with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in chapter 119, Fla. Stat. or as otherwise provided by law;

C. Ensure that public records that are exempt or that are confidential and exempt from public record disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and, following completion of the contract, Contractor shall destroy all copies of such confidential and exempt records remaining in its possession once the Contractor transfers the records in its possession to the CITY; and

D. Upon completion of the contract, Contractor shall transfer to the CITY, at no cost to the CITY, all public records in Contractor's possession All records stored electronically by Contractor must be provided to the CITY, upon request from the CITY's custodian of public records, in a format that is compatible with the information technology systems of the CITY.

E. IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS:

JUDY PYLE, CITY CLERK
100 E BOYNTON BEACH BLVD.
BOYNTON BEACH, FLORIDA, 33435
561-742-6061
PYLEJ@BBFL.US

DATED this _____ day of _____, 20____.

CITY OF BOYNTON BEACH

_____ _____
City Manager Vendor

Attest/Authenticated: _____
Title

_____ (Corporate Seal)
City Clerk

Approved as to Form: Attest/Authenticated:

_____ _____
Office of the City Attorney Secretary

AGREEMENT BETWEEN THE CITY OF BOYNTON BEACH AND SPILLMAN TECHNOLOGIES, INC.

THIS AGREEMENT is entered into between the City of Boynton Beach, hereinafter referred to as "the City", and **SPILLMAN TECHNOLOGIES, INC.**, hereinafter referred to as "VENDOR", in consideration of the mutual benefits, terms, and conditions hereinafter specified.

1. PROJECT DESIGNATION: PUBLIC SAFETY SOFTWARE .

2. SCOPE OF SERVICES. Vendor agrees to perform the services as outlined in RFP No. 007-2110-17/JMA, and incorporated herein: Price Proposal (pages __ to __ of the RFP). "No modifications will be made to the original scope of work without the written approval of the City Manager or her designee.

3. TIME FOR PERFORMANCE. Work under this agreement shall commence upon written notice by the City to the VENDOR to proceed. Vendor shall perform all services and provide all work product required pursuant to this agreement upon written notice to proceed.

4. TERM: This Agreement shall be for a period of _____commencing on _____ This Agreement may be renewed at the same terms, conditions, and prices, for two (2) subsequent one-year periods subject to Vendor's acceptance, satisfactory performance, and determination that renewal will be in the best interest of the City.

5. PAYMENT. The Vendor shall be paid by the City for completed work and for services rendered under this agreement as follows:

   a. Payment for the work provided by Vendor shall be made promptly on all invoices submitted to the City properly and in accordance with "PRICE PROPOSAL" (Exhibit "A").

   b. The Vendor may submit invoices to the City once per month during the progress of the contract term. Such invoices will be reviewed by the City, and upon approval thereof, payment will be made to the Vendor in the amount approved.

   c. Final payment of any balance due the Vendor of the total price earned will be made promptly upon its ascertainment and verification by the City after the completion of the work under this Agreement and its acceptance by the City.

   d. Payment as provided in this section by the City shall be full compensation for work performed, services rendered and for all materials, supplies, equipment and incidentals necessary to complete the work.

   e. The Vendor's records and accounts pertaining to this agreement are to be kept available for inspection by representatives of the City and State for a period of three (3) years after the termination of the Agreement. Copies shall be made available upon request.

6. OWNERSHIP AND USE OF DOCUMENTS. All documents, and other materials produced by the Vendor in connection with the services rendered under this Agreement shall be the property of the City.

7. COMPLIANCE WITH LAWS. Vendor shall, in performing the services contemplated by this Agreement, faithfully observe and comply with all federal, state and local laws, ordinances and regulations that are applicable to the services to be rendered under this agreement.

Commented [TI1]: Can we refer to and incorporate Spillman's Exhibits A & B here?

Commented [TI2]: Can we simply refer to and incorporate Spillman's License and Software Agreement, Exhibit A here?

Commented [TI3]: We are contemplating: $185K w/ signing, $185K w/ implementation and financing the balance thru Motorola for a 3-5 yr. term.

Commented [TI4]: Exhibits A & B?

~~INDEMNIFICATION.~~ ~~8.~~ **Indemnification.**

A. General Indemnification. Spillman agrees to defend, indemnify and hold harmless, the City of Boynton Beach, Florida, its officers, commissioners, employees, and agents and volunteers agents who are users of the Software furnished, against any and all claims arising from any personal injuries, death, or damages to tangible property caused by the negligence or willful misconduct of Spillman, its agents or employees, and Spillman will pay any final judgment or amounts agreed in settlement, including, any reasonable attorneys' fees, costs and expenses. The foregoing excludes any claims related to the functionality or use of, or bugs or errors in, the Software provided by Spillman, which shall be governed solely by the terms of Spillman's license agreement. The City shall provide reasonable notice to Spillman after receipt by the City of any claim, suit or action against the City arising directly or indirectly from the operations of Spillman hereunder, for which the City may be entitled to a defense or indemnity by Spillman, under the provisions of this Contract. Spillman shall have the right to control the defense of any such claim, suit, or actions. The City shall provide such information and assistance as is necessary to enable Spillman to defend, compromise or settle such claim. Spillman shall also be liable to the City for all reasonable costs, expenses, attorneys' fees and damages which may be incurred or sustained by the City by reason of Spillman's breach of any of the provisions of the contract.

Commented [TI5]: Legal has already approved this language. It's also incorporated into Spillman's License and Software Agreement.

A. Intellectual Property Spillman agrees to defend Customer against any and all third party claims, demands, lawsuits or legal actions arising out of any actual or alleged infringement of any U.S. copyright, or patent misappropriation of trade secret or trademark, by the Software furnished, and Spillman will pay any damages, costs and expenses (including reasonable attorneys' fees) finally awarded in such action or paid to settle the action.

Spillman will not be required to indemnify Customer unless (i) Customer promptly notifies Spillman of any such claim; (ii) Customer gives Spillman sole control of the defense and all settlement negotiations, and the authority to represent Customer in defending the claim; and (iii) Customer provides Spillman with any information and assistance that Spillman reasonably requests in defending against the claim. Customer may, at its option and expense, be represented by separate counsel in any such action. If a court or other legal authority finds that any part of the Software infringes on a third party's intellectual property rights, or if Spillman believes that it infringes, Spillman will use reasonable efforts to obtain a license under the rights that have been infringed, to modify the Software so it is no longer infringing, or to provide to Customer substitute software that is non-infringing; provided that if in Spillman's judgment such options are not commercially reasonable, Spillman may terminate the license for the Software or the infringing portion thereof upon written notice to Customer. Spillman will have no liability for

infringement arising out of modification of the Software by any party other than Spillman, use of an outdated version of the Software, or the combination or use of the Software with any other software, hardware, equipment, product, or process not furnished by Spillman, if use of the Software alone and in its current, unmodified form would not have been an infringement. Spillman is not liable for any infringement claims based upon Third Party Software or hardware. This Section 11.7 states Spillman's entire obligation with respect to any claim for infringement or misappropriation of any third party intellectual property rights.

8. Vendor shall indemnify, defend and hold harmless the City, its offices, agents and employees, from and against any and all claims, losses or liability, or any portion thereof, including fees and costs, arising from injury or death to persons, including injuries, sickness, disease or death to Vendor's own employees, or damage to property occasioned by a negligent act, omission or failure of the Vendor.

9. INSURANCE. The Vendor shall secure and maintain in force throughout the duration of this contract comprehensive general liability insurance, including Products Liability with a minimum coverage of $1,000,000 per occurrence and $1,000,000 aggregate for personal injury; and $1,000,000 per occurrence/aggregate for property damage, and Vendor liability insurance in the amount of $1,000,000 per ~~occurrence~~ claim to $2 million aggregate with defense costs in addition to limits; workers' compensation insurance, and vehicular liability insurance.

   Said general liability policy shall name the City of Boynton Beach as an "additional named insured" and shall include a provision prohibiting cancellation of said policy except upon thirty (30) days prior written notice to the City. Certificates of coverage as required by this section shall be delivered to the City within fifteen (15) days of execution of this agreement.

Commented [TI6]: Revisions to insurance have already been approved/accepted by Risk Management.

10. INDEPENDENT CONTRACTOR. The Vendor and the City agree that the Vendor is an independent contractor with respect to the services provided pursuant to this agreement. Nothing in this agreement shall be considered to create the relationship of employer and employee between the parties hereto. Neither Vendor nor any employee of Vendor shall be entitled to any benefits accorded City employees by virtue of the services provided under this agreement. The City shall not be responsible for withholding or otherwise deducting federal income tax or social security or for contributing to the state industrial insurance program, otherwise assuming the duties of an employer with respect to Vendor, or any employee of Vendor.

11. COVENANT AGAINST CONTINGENT FEES. The Vendor warrants that he has not employed or retained any company or person, other than a *bona fide* employee working solely for the Vendor, to solicit or secure this contract, and that he has not paid or agreed to pay any company or person, other than a *bona fide* employee working solely for the Vendor, any fee, commission, percentage, brokerage fee, gifts, or any other consideration contingent upon or resulting from the award or making of this contract.

    For breach or violation of this warranty, the City shall have the right to annul this contract without liability or, in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

12. DISCRIMINATION PROHIBITED. The Vendor, with regard to the work performed by it under this agreement, will not discriminate on the grounds of race, color, national origin, religion, creed, age, sex or the presence of any physical or sensory handicap in the selection and retention of employees or procurement of materials or supplies.

13. ASSIGNMENT. The Vendor shall not sublet or assign any of the services covered by this Agreement without the express written consent of the City.

14. NON-WAIVER. Waiver by the City of any provision of this Agreement or any time limitation provided for in this Agreement shall not constitute a waiver of any other provision.

15. TERMINATION.

a. The City reserves the right to terminate this Agreement at any time by giving ten (10) days written notice to the Vendor.

b. In the event of the death of a member, partner or officer of the Vendor, or any of its supervisory personnel assigned to the project, the surviving members of the Vendor hereby agree to complete the work under the terms of this Agreement, if requested to do so by the City. This section shall not be a bar to renegotiations of this Agreement between surviving members of the Vendor and the City, if the City so chooses.

16. DISPUTES. Any disputes that arise between the parties with respect to the performance of this Agreement, which cannot be resolved through negotiations, shall be submitted to a court of competent jurisdiction in Palm Beach County, Florida. This Agreement shall be construed under Florida Law.

17. NOTICES. Notices to the City of Boynton Beach shall be sent to the following address:

Lori LaVerriere, City Manager
City of Boynton Beach
P.O. Box 310
Boynton Beach, FL 33425-0310

Notices to Vendor shall be sent to the following address:

SPILLMAN TECHNOLOGIES, INC.
4625 LAKE PARK BLVD.
SALT LAKE CITY, UTAH 84120

18. INTEGRATED AGREEMENT. This agreement, together with attachments or addenda, represents the entire and integrated agreement between the City and the Vendor and supersedes all prior negotiations, representations, or agreements written or oral. This agreement may be amended only by written instrument signed by both City and Vendor.

19. PUBLIC RECORDS. Sealed documents received by the City in response to an invitation are exempt from public records disclosure until thirty (30) days after the opening of the Bid unless the City announces intent to award sooner, in accordance with Florida Statutes 119.07.

The City is public agency subject to Chapter 119, Florida Statutes. The Contractor shall comply with Florida's Public Records Law. Specifically, the Contractor shall:

A. Keep and maintain public records required by the CITY to perform the service;

B. Upon request from the CITY's custodian of public records, provide the CITY with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in chapter 119, Fla. Stat. or as otherwise provided by law;

C. Ensure that public records that are exempt or that are confidential and exempt from public record disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and, following completion of the contract, Contractor shall destroy all copies of such confidential and exempt records remaining in its possession once the Contractor transfers the records in its possession to the CITY; and

D. Upon completion of the contract, Contractor shall transfer to the CITY, at no cost to the CITY, all public records in Contractor's possession All records stored electronically by Contractor must be provided to the CITY, upon request from the CITY's custodian of public records, in a format that is compatible with the information technology systems of the CITY.

E. IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS:

JUDY PYLE, CITY CLERK
100 E BOYNTON BEACH BLVD.
BOYNTON BEACH, FLORIDA, 33435
561-742-6061
PYLEJ@BBFL.US

DATED this _____ day of _____, 20____.

CITY OF BOYNTON BEACH

_____ _____
City Manager Vendor

Attest/Authenticated: _____
Title

_____ (Corporate Seal)
City Clerk

Approved as to Form: Attest/Authenticated:

_____ _____
Office of the City Attorney Secretary

The City of Boynton Beach Police Department

spillman technologies, inc.
a Motorola Solutions Company

Purchase and License Agreement

Spillman®
Purchase and License Agreement

Table of Contents

Purchase and License Agreement 2
Section 1: Definitions 2
Section 2: Purchases of Professional Services and Third Party Products 3
Section 3: License 3
Section 4: Scope of Rights 4
Section 5: Fees and Payments 5
Section 6: Maintenance and Support Services 5
Section 7: Customer Responsibilities 5
Section 8: Proprietary Protection and Restrictions 6
Section 9: Confidential Information 7
Section 10: Utilities; Restrictions on Usage 7
Section 11: Limited Warranty and Limitation of Liability; Indemnification 7
Section 12: Term of Agreement; Termination 10
Section 13: Miscellaneous 11
Exhibit A Maintenance and Support Agreement ..... Error! Bookmark not defined.
Section 1: Definitions ..... Error! Bookmark not defined.
Section 2: Eligibility For Support ..... Error! Bookmark not defined.
Section 3: Scope of Services ..... Error! Bookmark not defined.
Section 4: Services Not Covered by this Support Agreement ..... Error! Bookmark not defined.
Section 5: Obligations of Customer ..... Error! Bookmark not defined.
Section 6: SAA and Support Contact Requirements ..... Error! Bookmark not defined.
Section 7: Fees and Charges ..... Error! Bookmark not defined.
Section 8: Termination ..... Error! Bookmark not defined.
Section 9: General ..... Error! Bookmark not defined.

Purchase and License Agreement

This Purchase and License Agreement (the "Agreement") is made and entered into effective as of the date this Agreement is signed by both parties below (the "Effective Date"), and is by and between:

Spillman Technologies, Inc. ("Spillman")
4625 Lake Park Blvd.
Salt Lake City, UT 84120

and

The City of Boynton Beach ("Customer")
100 E. Boynton Beach Blvd.
Boynton Beach, FL 33435

Customer desires to purchase from Spillman licenses for certain Spillman software, professional services, maintenance services, and third party hardware, software and services, as set forth in Exhibit B (Purchased Products and Services), and Spillman desires to sell such licenses, services and products to Customer, pursuant to the terms and conditions of this Agreement.

In consideration of the mutual agreements set forth herein, the sufficiency of which is hereby acknowledged, the parties agree as follows:

Section 1: Definitions

1.1 **"Confidential Information"** means any non-public information provided by either party to the other in connection with this Agreement, including the Software, Spillman's pricing, future product plans, trade secrets; know-how; a party's non-public business and financial information; customer lists; and any written materials marked as confidential and any other information, including visual or oral information, which reasonably should be understood to be confidential. Confidential Information does not include information that a party can prove: (a) is now or later becomes generally available to the public without fault of the party who received such information; (b) was rightfully in the receiving party's possession prior to its disclosure by the disclosing party; (c) is independently developed by the receiving party without the use of any Confidential Information of the disclosing party; or (d) is obtained by the receiving party without obligation of confidentiality from a third party who has the right to disclose it. Additionally, the receiving party may disclose Confidential Information to the extent required by a judicial or legislative order or proceeding, or by any applicable federal or state open records act or freedom of information act requirements provided that it gives the disclosing party prompt prior notice of the intended disclosure and an opportunity to respond or object to the disclosure, if permissible.

1.2 **"Documentation"** means all written or electronic user documentation for the Software provided by Spillman to Customer. Documentation does not include Spillman marketing materials.

1.3 **"Software"** means the package of Spillman computer program(s), interfaces and/or data, in machine-readable form only, as well as related materials, including Documentation, identified in Exhibit B (Purchased Products and Services) and Exhibit C (Existing Interfaces – Technical Product Documents) or subsequently licensed by Customer pursuant to the terms of this Agreement. Software also includes all Utilities, modifications, new Releases and Enhancements (as defined in

Exhibit A (Maintenance and Support Agreement)). "Software" specifically excludes Third Party Software, except to the extent otherwise expressly stated in this Agreement.

1.4 **"Third Party Software"** means software owned by third parties, whether (i) licensed by the third party to Spillman for distribution to Spillman's customers with the Software, such as mapping software, database software, paging software or open source software, or (ii) separately acquired by Customer as necessary or appropriate for use in conjunction with the Software, such as word processors, spreadsheets, terminal emulators, etc.

1.5 **"Spillman Application Administrator"** means an agent of Customer appointed by Customer, who has been certified on the Software by Spillman, pursuant to the procedures set forth in Section 6 of Exhibit A (Maintenance and Support Agreement), and is able to communicate effectively with Spillman support personnel in the description and resolution of problems associated with the Software.

1.6 **"Utilities"** means the software utilities and tools provided by Spillman as part of the Software, including Spillman's XML Query, ODBC interface and implementation code, ctperl, dbdump, and dbload, as well as any other software utilities provided by Spillman in connection with the Software.

Section 2: Purchases of Professional Services and Third Party Products

2.1 **Professional Services.** Customer agrees to purchase the Spillman professional services listed in Exhibit B (Purchased Products and Services).

2.2 **Third Party Products.** Customer agrees to purchase from Spillman the third party products identified in Exhibit B (Purchased Products and Services). Spillman makes no warranties with respect to such third party products, but agrees to pass through to Customer any warranties provided by the manufacturers of such products, to the extent permitted. If Third Party Software is provided to Customer by Spillman and is not subject to a separate third party license agreement, then Spillman sublicenses such Third Party Software to Customer pursuant to the terms of this Agreement that are applicable to the Software, provided, however, that Spillman does not make any warranties to Customer or agree to indemnify Customer for any claims regarding Third Party Software. Third Party Software may be used only in conjunction with Spillman's Software and, where applicable, the hardware with which such Third Party Software is intended to be used.

Section 3: License

3.1 **Grant of License**. In consideration of the payment of the license fees set forth in Exhibit B (Purchased Products and Services), Spillman grants Customer a nonexclusive, non-transferable license to use the Software, subject to the terms of this Agreement, including without limitation the restrictions with respect to Utilities set forth in Section 10.

3.2 **Ownership.** The Software and all related documentation and materials provided by Spillman are licensed (not sold) to Customer. Spillman retains sole and exclusive ownership of all rights, title, and interest in and to the Software, all related materials, and all modifications and enhancements thereof (including ownership of all trade secrets, copyrights and other intellectual property rights pertaining thereto), subject only to the licenses expressly granted to Customer herein by Spillman, regardless of

whether Customer, its employees, or contractors may have contributed to the conception or development of any part of the Software, including enhancements or customized Software. Any Third Party Software distributed by Spillman is separately licensed to Spillman from third party licensors.

Such Third Party Software is sublicensed to Customer and protected pursuant to the terms of this Agreement, and may be used only in conjunction with the Software. This Agreement does not provide Customer with title or ownership of the Software or any component thereof, but only a limited license. Spillman and its licensors specifically reserve all rights not expressly granted to Customer in this Agreement. Customer must keep the Software free and clear of all claims, liens, and encumbrances.

Section 4: Scope of Rights

4.1 **Location of Software.** Customer may install and use the Software only in Customer's own facilities, including any authorized mobile sites. Customer shall give Spillman two (2) weeks prior written notice of any change in the location of Customer's primary facility where the server-based Software is installed. If an immediate change in location is required due to an emergency or disaster recovery, Customer may do so provided that it notifies Spillman as soon as is feasible.

4.2 **Customer Use Only.** Customer may use and execute the Software only for purposes of serving the internal needs of Customer's business, except as specifically set forth in this Agreement.

4.3 **Copies.** Customer may make one copy of the Software in machine-readable, object code form, for backup and archival purposes only, provided that Spillman's copyright notice is included. Such backup copy shall not be used for productive use, except to the extent required if the primary Software installation is not functioning. Customer may reproduce (photocopy or electronic copy) the Documentation as reasonably necessary and appropriate for Customer's authorized use of the Software. Customer may not distribute any Documentation for use outside of Customer's primary place of business.

4.4 **Shared Agency Arrangements.** If Customer and another agency (a "Shared Agency") desire to enter into an arrangement whereby Customer will act as a "Host Agency" and permit the Shared Agency to access the Software through Customer, the Shared Agency and Spillman will execute a Shared Agency Agreement for such arrangement and attach it to this Agreement as an additional exhibit. Customer agrees to be responsible for timely payment of Spillman's invoices for the Shared Agency's license and services, whether such invoices are to be paid by the Shared Agency or Customer. Customer shall require the Shared Agency to comply with the terms of this Agreement and shall notify Spillman and cooperate as reasonably requested by Spillman in the event of any non-compliance by the Shared Agency.

4.5 **Cooperative Purchasing ("Piggyback").** Upon request of a third party state or local agency located in the same state as Customer (the "New Agency"), Spillman will negotiate an agreement with such New Agency that contains the same terms and conditions as this Agreement (excepting the terms described below), subject to the eligibility and validity of such piggybacking arrangement under state law, and provided that Spillman and the New Agency agree in writing upon the software, products and services to be licensed and purchased by the New Agency and the prices therefor, which shall be paid by the New Agency.

Section 5: Fees and Payments

5.1 **Fees.** The license fee for the Software and the price for all services and third party products purchased by Customer from Spillman are specified in Exhibit B (Purchased Products and Services). All invoices are payable within thirty (30) days of the date of the invoice, unless a later payment due date is agreed to in Exhibit B. Customer must pay such fees directly to Spillman according to the agreed payment terms set forth in Exhibit B (Purchased Products and Services).

5.2 **Taxes.** Customer is solely responsible for any and all taxes resulting from this Agreement and its purchase of the products and services described herein (excluding taxes on Spillman's net income). It shall be the responsibility of Spillman to collect and remit applicable taxes. If Customer is a tax-exempt organization, Customer will provide Spillman with documentation required by the taxing authority to support such exemption.

5.3 **Late Payments.** If Customer fails to pay any amounts owed when due, Spillman may assess interest at one-and-one-half percent (1.5%) per month on all overdue amounts, or the highest rate permitted by law, whichever is less. Customer shall also be liable for all costs of collection, including reasonable attorney's fees, whether or not a suit is instituted.

Section 6: Maintenance and Support Services

6.1 **Support Agreement.** Spillman will provide maintenance and support services to Customer with respect to the Software pursuant to the terms of the Maintenance and Support Agreement attached as Exhibit A hereto (the "Support Agreement"), subject to Customer's payment of the applicable annual support and maintenance fees after the Warranty Period ends.

Section 7: Customer Responsibilities

7.1 **Spillman Application Administrator.** Customer is responsible for designating a Spillman Application Administrator ("SAA") who is qualified to operate the Software on Customer's own equipment, has been certified as set forth in Exhibit A (Maintenance and Support Agreement), and is familiar with the information, calculations, and reports that serve as input and output of the Software.

7.2 **Spillman Support Contacts.** Customer will provide contact information for its SAA and other personnel who are authorized to contact Spillman support to Spillman's support department. Each designated SAA and Customer support contact must be qualified to address, or have other support resources to address, without the aid of Spillman, all problems relating to hardware, software, or operating system not directly associated with the Software.

7.3 **Additional Components.** Other components (hardware and/or Third Party Software) may be required for the use of the Software, including without limitation workstations, personal computers, networks, operating systems, and Internet connectivity. Spillman assumes no responsibility under this Agreement for obtaining and/or supporting such components except as expressly agreed in writing.

7.4 **Proper Environment.** Customer is responsible for ensuring a proper environment and proper utilities for the computer system on which the Software will operate, including housing and operating the server equipment in a secure environment and according to the specifications for the equipment as specified by its manufacturer.

7.5 **Data Conversion Services.** Spillman assumes no responsibility under this Agreement for converting Customer's data files for use with the Software, except as listed in Exhibit B (Purchased Products and Services) and detailed in a data conversion scope of work.

7.6 **Improper Use.** Customer shall use reasonable efforts to prevent its employees and independent contractors from making unauthorized copies of the Software, improperly using the Software, or otherwise breaching this Agreement. If Customer discovers any such problems, it will promptly notify Spillman and take commercially reasonable actions to resolve the problem as soon as reasonably possible. Customer is liable for any breach of this Agreement by any employee or agent of Customer.

Section 8: Proprietary Protection and Restrictions

8.1 **Third Party Access and Queries.** Customer may not allow any other agency, entity, or individual to use or have access to the Software in any manner other than inquire-only, unless expressly authorized by Spillman. Except as specifically authorized by Spillman, queries may be conducted solely for Customer's internal business purposes, and Customer may not query the Software, or permit any third party to query the Software, for a third party's business purposes.

8.2 **Restrictions.** Customer may not use, copy, modify, rent, share, or distribute the Software (electronically or otherwise), or any copy, adaptation, transcription, or merged portion thereof, except as expressly authorized in writing by Spillman. Customer may not translate, modify, reverse assemble, reverse compile, or otherwise reverse engineer the Software.

8.3 **Competitive Use.** Customer may not utilize or permit a third party to access or utilize any part of the Software (including the Utilities) in any manner that competes, directly or indirectly, with any product or service provided by Spillman. This includes, without limitation, using the Software (or its Utilities) to develop any software, interfaces, or other products that compete with Spillman's products or services, or using interfaces or other products connecting to the database of the Software in connection with a third party's competing product.

8.4 **Limitations on Service Bureau Work and Sharing Arrangements.** No service bureau work, multiple-user license, or time-sharing arrangement is permitted, except as expressly authorized in writing by Spillman as set forth in Section 4.4. Customer may not install the Software in any other computer system or use it at any other location without Spillman's express authorization obtained in advance (which will not be unreasonably withheld).

8.5 **Inspection.** Customer hereby authorizes Spillman to enter Customer's premises in order to inspect the Software in any reasonable manner during regular business hours, with or without prior notice, to verify Customer's compliance with the terms of this Agreement.

Section 9: Confidential Information

9.1 **Confidentiality Terms.** Each party shall keep confidential all Confidential Information provided to it by the other party, and shall not use such Confidential Information for any purpose other than the proper purposes contemplated by this Agreement. A party may disclose Confidential Information only to its employees and contractors who need to know such information, and who are also bound to keep such information confidential. A party may also disclose Confidential Information to the extent required by the open records act or other freedom of information laws or regulations, provided that it gives the other party reasonable prior notice of such disclosure and, if feasible, the opportunity to object to or seek to limit such disclosure. Each party shall give the other party's Confidential Information at least the same level of protection as it gives its own confidential information of similar nature, but not less than a reasonable level of protection.

9.2 **Restrictions on Disclosure.** Customer must not disclose the Software, its Documentation, or any other Spillman documentation, (i) to any competitor of Spillman, or (ii) to any other third party unless it has a need to know such information for the proper purposes of this Agreement.

Section 10: Utilities; Restrictions on Usage

10.1 **Utilities.** Spillman provides certain software Utilities as part of the Software. Spillman may add, modify, or remove Utilities from the Software during the term of this Agreement. The Utilities contain material that is proprietary to Spillman and/or its licensors, and may be used only as permitted by this Agreement.

10.2 **Use of Utilities.** Customer is permitted to use the Utilities for read-only operations in connection with the authorized use of the Software, but may not allow third parties to use the Utilities unless an authorized official of Spillman consents in writing. With the exception of Open Data Base Connectivity (ODBC), Customer is NOT permitted to utilize the Utilities or any other software tools to write to Spillman's database in any manner, due to the potential for data corruption and system slowdown or damage. Due to the potential for data corruption and system slowdown or damage, Customer agrees that it does so solely at its own risk.

10.3 **Disclaimer.** Spillman permits customers to use the Utilities, but solely at the customers' own risk. Spillman is NOT responsible for any breach of warranty, damages to the Software or its database, data corruption, support issues, security issues or performance issues arising out of Customer's or a third party's use of the Utilities (even if permitted by Spillman) or use of any other software not specifically licensed in this Agreement (including any third party querying or writing to the database).

Section 11: Limited Warranty and Limitation of Liability; Indemnification

11.1 **Functionality.** Spillman warrants for a period of 12 months (the "Warranty Period"), and for Customer's benefit alone, that the Software conforms in all material respects to the specifications for the current version of the Software provided by Spillman. The Warranty Period will begin upon the earlier of (i) the date of Customer's cutover to live operation of the Software (Go-live); or (ii) twelve (12) months after the Effective Date. This warranty is expressly conditioned on Customer's

observance of the operation, security, and data-control procedures set forth in the Documentation included with the Software.

11.2 **Limitations.** Spillman is not responsible for obsolescence of the Software that may result from changes in Customer's requirements. The warranty set forth in Section 11.1 shall apply only to the most current version of the Software issued by Spillman. Customer must notify Spillman of any warranty issues or breaches within the Warranty Period; after the end of the Warranty Period, Software errors and defects will be handled under Exhibit A (Maintenance and Support Agreement). Issuance of updates does not result in a renewal or extension of the Warranty Period. Spillman assumes no responsibility for the use of superseded, outdated, or uncorrected versions of the Software. Such warranty also excludes non-performance issues that result from third party hardware or software malfunction or defect; modification of the Software by any person other than Spillman, or defects or problems that are outside the reasonable control of Spillman.
Customer will reimburse Spillman for its reasonable time and expenses for any services provided at Customer's request to remedy excluded non-performance issues. Additionally, Spillman is not responsible for any problems or errors with the Software or Customer's system resulting from use of the ctperl or dbload Utilities in any manner other than read-only. Customer expressly acknowledges that any use of the "write" or "update" features of these Utilities may damage Customer's database or cause other problems with its system.

11.3 **Remedies.** As Customer's exclusive remedy for any material defect in the Software for which Spillman is responsible, Spillman shall use reasonable efforts to correct or cure any reproducible defect by issuing corrected instructions, a fix or a workaround. In the event Spillman does not correct or cure such nonconformity or defect after Spillman has had a reasonable opportunity to do so, Spillman's liability shall be limited to the amount paid as the license fee for the defective or non-conforming module of the Software. Spillman shall not be obligated to correct, cure, or otherwise remedy any nonconformity or defect in the Software if Customer has made any changes whatsoever to the Software, if the Software has been misused or damaged in any respect, or if Customer has not reported to Spillman the existence and nature of such nonconformity or defect promptly upon discovery thereof.

11.4 **Limitation of Warranties.** EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, SPILLMAN AND ITS LICENSORS DISCLAIM ANY AND ALL PROMISES, REPRESENTATIONS, AND WARRANTIES WITH RESPECT TO THE SOFTWARE, INCLUDING ITS CONDITION, ITS CONFORMITY TO ANY REPRESENTATION OR DESCRIPTION, THE EXISTENCE OF ANY LATENT OR PATENT DEFECTS, TITLE, NON-INFRINGEMENT, AND ITS MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR USE. Customer agrees that Spillman is not responsible, and Spillman disclaims all liability, for any claims or damages arising out of or related to any unauthorized persons hacking into or accessing Customer's database or the Software.

11.5 **Limitation of Liability.** THE CUMULATIVE LIABILITY OF SPILLMAN AND ITS LICENSORS TO CUSTOMER FOR ALL CLAIMS RELATING TO THE SOFTWARE AND THIS AGREEMENT, INCLUDING ANY CAUSE OF ACTION SOUNDING IN CONTRACT, TORT, OR STRICT LIABILITY, SHALL NOT EXCEED THE TOTAL AMOUNT OF ALL LICENSE FEES PAID TO SPILLMAN HEREUNDER. This limitation of liability is intended to apply without regard to whether other provisions of this Agreement have been breached or have proven ineffective. Spillman shall have no liability for the loss of data or documentation, it being understood that Customer is responsible for reasonable backup precautions.

11.6 **Limitation of Damages.** IN NO EVENT SHALL SPILLMAN AND ITS LICENSORS BE LIABLE FOR ANY LOSS OF PROFITS; ANY INCIDENTAL, SPECIAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES; OR ANY CLAIMS OR DEMANDS BROUGHT AGAINST CUSTOMER BY THIRD PARTIES, EVEN IF SPILLMAN OR ITS LICENSORS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH CLAIMS OR DEMANDS. This limitation upon damages and claims is intended to apply without regard to whether other provisions of this Agreement have been breached or have proven ineffective.

11.7 **Indemnification.**

A. General Indemnification. Spillman agrees to defend, indemnify and hold harmless, the City of Boynton Beach, Florida, its officers, commissioners, employees, and agents and volunteers agents who are users of the Software furnished, against any and all claims arising from any personal injuries, death, or damages to tangible property caused by the negligence or willful misconduct of Spillman, its agents or employees, and Spillman will pay any final judgment or amounts agreed in settlement, including, any reasonable attorneys' fees, costs and expenses. The foregoing excludes any claims related to the functionality or use of, or bugs or errors in, the Software provided by Spillman, which shall be governed solely by the terms of Spillman's license agreement. The City shall provide reasonable notice to Spillman after receipt by the City of any claim, suit or action against the City arising directly or indirectly from the operations of Spillman hereunder, for which the City may be entitled to a defense or indemnity by Spillman, under the provisions of this Contract. Spillman shall have the right to control the defense of any such claim, suit, or actions. The City shall provide such information and assistance as is necessary to enable Spillman to defend, compromise or settle such claim. Spillman shall also be liable to the City for all reasonable costs, expenses, attorneys' fees and damages which may be incurred or sustained by the City by reason of Spillman's breach of any of the provisions of the contract.

A. Intellectual Property Spillman agrees to defend Customer against any and all third party claims, demands, lawsuits or legal actions arising out of any actual or alleged infringement of any U.S. copyright, or patent misappropriation of trade secret or trademark, by the Software furnished, and Spillman will pay any damages, costs and expenses (including reasonable attorneys' fees) finally awarded in such action or paid to settle the action.

Spillman will not be required to indemnify Customer unless (i) Customer promptly notifies Spillman of any such claim; (ii) Customer gives Spillman sole control of the defense and all settlement negotiations, and the authority to represent Customer in defending the claim; and (iii) Customer provides Spillman with any information and assistance that Spillman reasonably requests in defending against the claim. Customer may, at its option and expense, be represented by separate counsel in any such action. If a court or

other legal authority finds that any part of the Software infringes on a third party's intellectual property rights, or if Spillman believes that it infringes, Spillman will use reasonable efforts to obtain a license under the rights that have been infringed, to modify the Software so it is no longer infringing, or to provide to Customer substitute software that is non-infringing; provided that if in Spillman's judgment such options are not commercially reasonable, Spillman may terminate the license for the Software or the infringing portion thereof upon written notice to Customer. Spillman will have no liability for infringement arising out of modification of the Software by any party other than Spillman, use of an outdated version of the Software, or the combination or use of the Software with any other software, hardware, equipment, product, or process not furnished by Spillman, if use of the Software alone and in its current, unmodified form would not have been an infringement. Spillman is not liable for any infringement claims based upon Third Party Software or hardware. This Section 11.7 states Spillman's entire obligation with respect to any claim for infringement or misappropriation of any third party intellectual property rights.

Section 12: Term of Agreement; Termination

12.1 **Term of Agreement.** Customer's license of the Software shall become effective upon the execution of this Agreement and shall continue perpetually unless otherwise terminated as provided herein.

12.2 **Support Required.** Customer is required to continue purchasing support and maintenance services from Spillman throughout the term of this Agreement, as a condition to the license of the Software under this Agreement. This Agreement shall automatically terminate if Customer ceases paying the required fees for maintenance and support of the Software, unless Spillman terminates the Support Agreement without cause.

12.3 **Termination without Cause.** Customer may terminate this Agreement at any time upon ninety (90) days' prior written notice to Spillman, without cause, subject to any outstanding obligations and financial commitments of Customer under this Agreement (e.g., Customer's obligation to pay license fees is not rescinded by such termination).

12.4 **Termination for Cause.** Either party may terminate this Agreement, in addition to seeking any other available remedies, if the other party breaches any material term of this Agreement – including the Support and Maintenance Agreement (Exhibit A) or any Statement of Work executed by the parties – and does not correct such breach within thirty (30) days following written notice of the breach from the other party. Repudiation or failure to accept the Software without cause constitutes a material breach of this Agreement. In addition to or in lieu of termination, a party may seek any other remedies that may be available at law or in equity.

12.5 **Termination for Loss of Funding.** Customer may also terminate or suspend this Agreement upon thirty (30) days prior written notice in the event of the elimination of an appropriation for, or the non-availability of, sufficient funds for the purposes of this Agreement. In such case Spillman

will be entitled to recover from Customer, upon appropriate documentation, the costs of all labor performed up to and including the effective date of the termination, profit on all labor performed up to and including the effective date of termination, and the cost of all materials and supplies that have been purchased.

12.6 **Effect of Termination.** Upon termination of this Agreement, all rights granted to Customer will terminate and revert to Spillman and/or its licensors. Promptly upon termination of this Agreement for any reason or upon discontinuance or abandonment of Customer's possession or use of the Software, Customer must return or destroy, as requested by Spillman, all copies of the Software in Customer's possession (whether modified or unmodified), and all related Documentation, Confidential Information and other materials pertaining to the Software (including all copies thereof). Customer agrees to certify Customer's compliance with such obligation upon Spillman's request. Customer will permit Spillman to repossess the Software and any products sold hereunder for which Customer has not fully paid the license fees or purchase price, as applicable. If Customer has any outstanding payment obligations under this Agreement, Spillman may accelerate and declare all such obligations of Customer immediately due and payable by Customer as a liquidated sum and proceed against Customer in any lawful way for satisfaction of such sum. The terms of Sections 2.2, 3.2, 5.2, 5.3, 9, 10.3, 11.4, 11.5, 11.6, 11.7, 12.6 and 13 shall survive termination of this Agreement.

Section 13: Miscellaneous

13.1 **Entire Agreement – Amendment.** This Agreement, together with its exhibits, which are attached hereto and incorporated herein by reference, constitutes the complete agreement between the parties with respect to the Software and other subject matter hereof. No modification of this Agreement shall be binding unless it is in writing and is signed by an authorized representative of each party.

13.2 **Assignment.** Customer may not assign or transfer this Agreement or any of its rights or duties hereunder to any third party without Spillman's prior written consent.

13.3 **Governing Law.** This Agreement will be governed by the laws of the state where Customer's primary facility is located, not including conflicts of laws provisions. In any legal action between the parties, the prevailing party shall be entitled to an award of its reasonable costs and attorneys' fees from the other party. EACH OF THE PARTIES HERETO IRREVOCABLY WAIVES ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

13.4 **No Waiver.** Any waiver by either party of a default or obligation under this Agreement will be effective only if in writing. Such a waiver does not constitute a waiver of any subsequent breach or default. No failure to exercise any right or power under this Agreement or to insist on strict compliance by the other party will constitute a waiver of the right in the future to exercise such right or power or to insist on strict compliance.

13.5 **Injunctive Relief.** Customer acknowledges that, in the event of Customer's breach of any of the confidentiality terms or scope of use restrictions in this Agreement, Spillman will not have an adequate remedy in money or damages. Spillman shall therefore be entitled to obtain an injunction against such

breach from any court of competent jurisdiction immediately upon request, without the necessity of posting bond, in addition to any other remedies that may be available at law or in equity.

13.6 **Limitation of Actions.** No action, whether based on contract, strict liability, or tort, including any action based on negligence, arising out of the performance of services under this Agreement, may be brought by either party more than three (3) years after such cause of action occurred. However, action for nonpayment may be brought within three (3) years of the date the last payment was received by Spillman.

13.7 **Notices.** Any notices required or permitted under this Agreement shall be in writing and delivered in person or sent by registered or certified mail, return receipt requested, with proper postage affixed, or sent by commercial overnight delivery service with provisions for a receipt.

13.8 **Severability.** If any term of this Agreement is held to be invalid or void by any court or tribunal of competent jurisdiction, it shall be modified by such court or tribunal to the minimum extent necessary to make it valid and enforceable. If it cannot be so modified, it shall be severed from this Agreement and all the remaining terms of this Agreement shall remain in full force and effect.

13.9 **Force Majeure.** A party shall be excused from delays or failure to perform its duties, other than payment obligations, to the extent such delays or failures result from acts of nature, riots, war, acts of public enemies, fires, epidemics, labor disputes, or any other causes beyond its reasonable control. The parties will promptly inform and consult with each other as to any of the above causes that in their judgment may or could be the cause of a substantial delay in the performance of this Agreement. Either party may, in its discretion, terminate this Agreement if a delay in performance by the other party exceeds or is reasonably expected to exceed six (6) months.

13.10 **Export.** In the event export of the Software is expressly permitted in writing by Spillman, Customer may only export the Software (including any related materials) as authorized by U.S. law and any other applicable jurisdiction. In particular, the Software may not be exported into any country where such export is prohibited by law, regulation, or governmental order.

13.11 **U.S. Government Restricted Rights.** Any software obtained for or on behalf of the United States of America, its agencies and/or instrumentalities ("U.S. Government") is provided with Restricted Rights. Use, duplication, or disclosure by the U.S. Government is subject to restrictions in accordance with FAR 12.211 (Technical Data) and FAR 12.212 (Software) and, for Department of Defense transactions, DFAR 252.227-7015 (Technical Data – Commercial Items) and DFAR 227.7202-3 (Rights in Commercial Computer Software or Computer Software Documentation).

Spillman desires that Customer be confident that the Software will suit Customer's needs. Although Customer must make that determination, Spillman is prepared to fully discuss the Software with Customer and answer questions. By executing this Agreement, Customer acknowledges that it has been given an adequate opportunity to investigate Customer's computer and Software needs and that based on its examination of the Software, Customer finds the Software to be satisfactory.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed by their duly authorized representatives as set forth below. This Agreement is not effective, and the license of the Software will not commence, until it has been executed by an authorized representative of both Customer and Spillman.

Accepted and Approved by:

The City of Boynton Beach

Signature: _____

Print Name: _____

Title:_____

Date: _____

Spillman Technologies, Inc.

Signature: _____

Print Name: _____

Title: _____

Date: _____

Exhibit A
Maintenance and Support Agreement

This Maintenance and Support Agreement (the "Support Agreement"), dated effective as of the date this Agreement is signed by both parties below, is by and between Spillman Technologies, Inc. ("Spillman") and The City of Boynton Beach ("Customer"). In connection with the Purchase and License Agreement between the parties (the "License Agreement"), Customer desires to purchase from Spillman certain maintenance and support services for the Software. All capitalized terms used and not otherwise defined herein shall have the meanings set forth in the License Agreement.

In consideration of the mutual agreements set forth herein, the sufficiency of which is hereby acknowledged, the parties agree as follows:

Section 1: Definitions

1.1 **"Coverage Hours"** means the hours between 8:00 a.m. and 8:00 p.m., Eastern Time, Monday through Friday, excluding regularly scheduled holidays of Spillman.

1.2 **"Enhancement"** means any modification or addition that, when made or added to the Software, changes its utility, efficiency, functional capability, or application, but that does not constitute solely an Error Correction. Spillman may designate Enhancements as minor or major, depending on Spillman's assessment of their value and of the function added to the preexisting Software.

1.3 **"Error"** means any failure of the Software to conform in all material respects to its functional specifications as published from time to time by Spillman, subject to the exceptions set forth in Section 4.

1.4 **"Error Correction"** means either a software modification or addition that, when made or added to the Software, establishes material conformity of the Software to the functional specifications, or a procedure or routine that, when observed in the regular operation of the Software, eliminates the practical adverse effect on Customer of such nonconformity. Error Correction services are subject to the exceptions set forth in Section 4.

1.5 **"Releases"** means new versions of the Software containing Error Corrections and Enhancements, where there is a change in the version number either to the left or immediately to the right of the decimal. Spillman's current numbering system is to designate Release versions by the year to the left of the decimal, and by the Release number in that year to the right of the decimal (e.g., 2017.1, 2017.2, and 2017.3). For reference, the two Releases of the Software prior to version 2017.1 are versions 6.1 and 6.2.

1.6 **"Response Time"** means six (6) or less Coverage Hours, from the time Customer first notifies Spillman of an Error until Spillman initiates work toward development of an Error Correction.

1.7 **"Support Term"** means the entire period during which Customer is receiving support services for the Software under the terms of this Support Agreement, beginning on the installation date of the Software. Support services are included during the Software's Warranty Period, as defined in Section 11.1 of the License Agreement, which is the "Initial Support Term." Thereafter, the Support Term shall automatically renew for successive periods of one year each, unless and until terminated

pursuant to Section 8 hereof. In no event, however, shall the Support Term extend beyond the term of the License Agreement.

Section 2: Eligibility For Support

2.1 **Support Termination.** Spillman's obligation to provide the support and maintenance services described in this Support Agreement with respect to the Software may be terminated pursuant to Section 8.2.2 or suspended, at Spillman's discretion, if at any time during the term of this Support Agreement any of the following requirements are not met:

2.1.1 The License Agreement must remain valid and in effect at all times;

2.1.2 The Software must be operated on a hardware platform, operating system and version approved by Spillman; and

2.1.3 Customer must be current on payment of maintenance and support fees.

2.2 **SAA Replacement.** Spillman may require Customer to appoint a new Spillman Application Administrator ("SAA") in order to continue receiving support services or increase Customer's support fees, if Spillman reasonably determines that the acting SAA does not have the training or experience necessary to communicate effectively with Spillman support personnel.

Section 3: Scope of Services

During the Support Term, Spillman shall render the following services in support of the Software, during Coverage Hours:

3.1 **Support Center.** Spillman shall maintain a Support Services Control Center capable of receiving from the SAA reports of any software irregularities, and requests for assistance in use of the Software.

3.2 **Services Staff.** Spillman shall maintain a trained staff capable of rendering support services set forth in this Support Agreement.

3.3 **Error Correction.** Spillman shall be responsible for using all reasonable diligence in correcting verifiable and reproducible Errors when reported to Spillman in accordance with Spillman's standard reporting procedures. Spillman shall, after verifying that such an Error is present, initiate work within the Response Time in a diligent manner toward development of an Error Correction. Following completion of the Error Correction, Spillman shall provide the Error Correction through a "temporary fix" consisting of sufficient programming and operating instructions to implement the Error Correction, and Spillman shall include the Error Correction in all subsequent Releases of the Software. Spillman Technical Services supports two (2) releases back from the most recent release. However, Spillman may, but is not obligated to, provide Error Corrections for any release of the Software other than the most recent production release. Additionally, Spillman may require the customer to move to the most current production release.

3.4 **Software Releases.** Spillman may, from time to time, issue new Releases of the Software to its Customers generally, containing Error Corrections, minor Enhancements, and, in certain instances, if Spillman so elects, major Enhancements. Spillman reserves the right to require additional license fees for major Enhancements. Spillman shall provide Customer with one copy of each new Release, without additional charge. Spillman shall provide reasonable assistance to help Customer install and operate each new Release, provided that such assistance, if required to be provided at Customer's facility, shall be subject to the supplemental charges set forth in Spillman's current Fee Schedule. The current fee schedule for Technical Services is as follows:

- Custom Support $168 per hour
- After Hours Support Monday – Saturday $247.50 per hour
- After Hours Support Sunday and Holidays $226 per hour

The Customer will be made aware of circumstances where fees might apply, prior to any work commencing.

3.5 **Enhancements.** Spillman shall consider and evaluate the development of Enhancements for the specific use of Customer and shall respond to Customer's requests for additional services pertaining to the Software (including, without limitation, data conversion and report-formatting assistance), provided that such assistance, if agreed to be provided, shall be subject to supplemental charges mutually agreed to in writing by Spillman and Customer.

Section 4: Services Not Covered by this Support Agreement

The services identified in this section are NOT covered by this Support Agreement. Spillman strongly recommends that Customer secure a separate support agreement with third party vendors for all non-Spillman products. Spillman may, in its discretion, provide such services to Customer upon request, for an additional fee as the parties may agree in writing.

4.1 **Third Party Products.** Spillman will not provide support for any third party products, including hardware, or support for hardware failure due to the use of any third party products. Spillman may in its discretion provide first-line support for Third Party Software distributed by Spillman; if not, Spillman will refer Customer to the vendor of such software for resolution of support issues.

4.2 **Customized Interfaces and Software.** Spillman's standard support does not include support for any custom interfaces or other customized Software developed by Spillman or any third party for Customer. Support and maintenance services for customized Software are subject to an additional support fee, if agreed in writing between the parties. Such support and maintenance services include bug fixes and minor modifications to the custom interface or software. They do NOT include major revisions or rewrites, such as those required to make a custom interface work with a new or upgraded version of the applicable third party software. Custom interfaces and support therefore are specific to the designated version of the applicable third party software or system. Any major changes to such third party software or system will require a new custom quote for Spillman to modify the custom interface to work with the new version of the third party software or system. Spillman's support fees may also differ for the new version of the custom interface.

4.3 **Network Failures.** Spillman will not provide support for any network failures or problems including, but not limited to, cabling, communication lines, routers, connectors, and network software.

4.4 **Data Recovery.** Spillman's standard support does not include restoration and/or recovery of data files and/or the operating system. Spillman will, upon request of Customer and subject to its then-current fees for such services, use reasonable efforts to assist Customer in recovering lost data.

4.5 **Unauthorized Use.** Spillman will not provide support where the problem arises out of any breach of warranty, damages to the Software or its database, data corruption, or support issues, security issues, or performance issues arising out of Customer's or a third party's use of the Utilities or any software not specifically licensed by Spillman to Customer for use in connection with the Software. Any assistance provided by Spillman in resolving such problems shall be charged to Customer on a time and materials basis. Additionally, any unauthorized use of the Utilities or other software in connection with the Software by Customer (or by a third party with Customer's knowledge) may result, at Spillman's sole option, in voidance of warranties, an increase in the annual maintenance and support fees under this Support Agreement, and/or loss of rights to upgrades under this Support Agreement.

4.6 **Database Modifications.** Spillman will not provide support for any damages to or problems with the Software or its database, data corruption, support issues, security issues, or performance issues arising from Customer's utilization of the "write" feature of the ODBC interface to write to or modify the database in any way.

4.7 **Misuse or Damage.** Spillman will not provide support for Software problems caused by Customer misuse, alteration or damage to the Software or Customer's combining or merging the Software with any hardware or software not supplied by or identified as compatible by Spillman, customizing of programs, accident, neglect, power surge or failure, lightning, operating environment not in conformance with the manufacturer's specifications (for electric power, air quality, humidity or temperature), or Third Party Software or hardware malfunction.

4.8 **Operating System.** Spillman is not responsible for supporting, configuring, maintaining, or upgrading the operating system, including, but not limited to, backups, restores, fixes, and patches, or for providing assistance with problems caused by operating system installation, configuration, errors, maintenance or repair, or using incorrect versions of the operating system.

4.9 **Onsite Visits.** Onsite service visits to Customer's facility by Spillman are subject to additional charges, as set forth in Section 7.5.

4.10 **Printers.** Spillman is not responsible for supporting printers connected to the back of terminals/personal computers (commonly called pass-through printing) or network printers are not supported by Spillman.

Section 5: Obligations of Customer

5.1 **Software Connectivity.** Customer must maintain and provide, at no cost to Spillman, a CJIS-approved broadband internet connection to the server used with the Software, 24 hours per day, 7 days per week, to facilitate remote support utilities enabling Spillman support personnel to connect to and provide assistance with the server used with the Software. Third party connectivity tools, such as client VPN software, which must be installed on Spillman equipment, cannot be required by Customer. No unescorted virtual access will be permitted.

5.2 **Customer Representative During Onsite Visits.** Customer's SAA or another authorized representative of Customer must be present when any onsite support is provided. Customer agrees that if such representative is not present when the Spillman representative arrives onsite, the Spillman representative shall notify an appropriate representative of Customer, if feasible, that there is no Customer IT representative present. If Customer's IT representative does not arrive within a reasonable time, no work will be performed and Customer will be charged for Spillman's expenses relating to the visit. If Spillman's onsite support person determines that changes to Customer's system (hardware or software) are required or advisable, it will inform Customer's representative. If such representative is not authorized to make or approve changes to Customer's system, as applicable, Customer will promptly make available such a person.

5.3 **English Language.** All communications between Customer and Spillman must be in the English language.

5.4 **SAA Assignment.** Customer is responsible for providing one or more qualified Spillman Application Administrators as described in Section 6 of this Support Agreement. At least one authorized representative, as specified in Appendix 1 attached hereto, must be available at all times; however, after-hours availability is required only when and if Customer is requesting after-hours support from Spillman.

5.5 **Security.** Customer is responsible for providing all network and server security.

5.6 **Error Information.** Customer must provide Spillman with information sufficient for Spillman to duplicate the circumstances under which an Error in the Software became apparent.

5.7 **CJIS Compliance.** Customer is responsible for its own adherence to the FBI Criminal Justice Information Services (CJIS) Security Policy, the Health Insurance Portability and Accountability Act of 1996 (HIPAA) (to the extent applicable) and any other applicable security and privacy laws and regulations. Spillman will reasonably cooperate with Customer in connection therewith.

Section 6: SAA and Support Contact Requirements

6.1 **Certification.** Customer's designated SAA must be certified by Spillman within one year of the date of Customer's cutover to live operation of the Software ("Go-live"). The designated SAA must meet the following requirements in order to certify at the basic level:

6.1.1 Attend and participate in, and successfully pass the final written and practical examinations from the following courses within one hundred twenty (120) days of installation of the Software:

i. System Introduction – Inquiry,
ii. System Introduction – Data Entry & Modification,
iii. Basic System Administration, and
iv. General training applicable to the Software used by Customer.

6.1.2 Pass the Basic SAA exam within one year after the agency's Go-live date.

6.2 **SAA Training Costs.** Customer will be responsible for the costs of such training, including any course fees, travel, and lodging expenses.

6.2.1 In the event that Boynton Beach host a regional SAA certification course, Spillman will waive the course certification fee for Boynton Beach Personnel.

6.3 **SAA and Support Contact Information.** Contact information for Customer's SAA(s) and other authorized support contacts must be provided by Customer to Spillman's Technical Services department. Any changes to Customer's SAA and support contacts names and contact information must be promptly provided to Spillman's support department.

6.4 **Qualifications.** Each designated SAA and Customer support contact must be qualified to address, or have other support resources to address, without the aid of Spillman, all problems relating to hardware, software, or operating system not directly associated with the Software.

Section 7: Fees and Charges

7.1 **Support Fees.** During the Initial Support Term, support services are included as part of the initial purchase price paid by Customer. Thereafter, Customer shall pay Spillman the support fee identified in Exhibit B (Purchased Products and Services) or Spillman support invoice, and any other charges or fees described herein. Spillman reserves the right to change its support fee, effective upon no less than 90 days written notice to Customer prior to the end of the current annual period.

7.2 **Support Fee Invoices.** Spillman shall invoice Customer for annual Support Fees at the beginning of each contract year. In the event that additional billable work is performed, all billable charges and expenses will be invoiced to Customer at the beginning of the month following the month in which those charges and expenses accrued or were incurred. Customer shall pay the invoiced amounts immediately upon receipt of such invoices. Any amount not paid within thirty (30) days after the invoice date shall bear interest at the rate of eighteen (18) percent per year or the highest rate allowed by applicable law, whichever is less.

7.3 **Equipment Fees.** Customer shall be responsible for and agrees to pay the fees and charges incurred for procuring, installing, and maintaining all equipment, telephone lines, modems, communications interfaces, networks, and other products necessary to operate the Software.

7.4 **After-Hours Charges.** Customer agrees to pay additional charges according to the Spillman Fee Schedule for all work required by Customer and performed outside of Coverage Hours. These charges are applicable for any work performed outside of the Coverage Hours, REGARDLESS OF THE CAUSE, even if the requested work was reported and/or initiated during normal Coverage Hours.

7.5 **Onsite Support** If Customer requests onsite support services, Customer shall reimburse Spillman for all labor, travel, and related expenses incurred by Spillman in providing such support services.

7.6 **Additional Fees.** Additional support fees may be required by Spillman if there is a significant increase in Customer's size with respect to use of the Software. An increase in size may arise either out of Customer's internal growth or out of a Host Agency/Shared Agency arrangement as described in Section 4.4 of the License Agreement, if applicable. Relevant factors include number of employees, number of dispatchers and/or number of jail beds. Payment of such additional Support Fees is due within thirty (30) days of the date of the invoice for such fees. Such fees will be prorated, based upon the date during the contract year the increase in Customer's size occurred. Additionally, Spillman may adjust support fees based on changes in (1) additional licenses or modules purchased by Customer, (2) Customer's hardware, (3) the Coverage Hours selected by Customer, or (4) Customer's violation of the restrictions set forth in Section 4.5 of this Support Agreement.

Section 8: Termination

8.1 **Automatic Termination.** This Support Agreement shall automatically terminate immediately upon termination of the License Agreement for any reason.

8.2 **Termination by a Party.** Either party may terminate this Support Agreement as follows:

8.2.1 If either Spillman or Customer provides a written notice to the other party, at least 90 days prior to the end of the then-current Support Term, of its intent to terminate this Support Agreement at the end of such Support Term; or

8.2.2 Upon 30 days prior written notice, if the other party has materially breached any provision of this Support Agreement and the offending party has not cured such breach within the 30-day notice period.

8.3 **Final Invoicing upon Termination.** Following termination of this Support Agreement, Spillman shall immediately invoice Customer for all accrued fees, charges, and reimbursable expenses; and Customer shall pay the invoiced amount immediately upon receipt of such invoice.

Section 9: General

9.1 **Incorporation of General Terms.** The terms of Section 11: Limited Warranty and Limitation of Liability; Indemnification and Section 13: Miscellaneous of the License Agreement are hereby incorporated into this Support Agreement by reference; provided, however, that for any breach by Spillman or claim against Spillman arising under this Support Agreement, Spillman's cumulative liability will be limited the support fees paid by Customer to Spillman during the preceding twelve (12) month period.

IN WITNESS WHEREOF, the parties have caused this Support Agreement to be executed by their duly authorized representatives as set forth below.

The City of Boynton Beach

Signature: _____

Print Name: _____

Title: _____

Date: _____

Spillman Technologies, Inc.

Signature: _____

Print Name: _____

Title: _____

Date: _____

Exhibit B
Purchased Products and Services

Boynton Beach Police Dept.
Integrated Public Safety
Software Purchase Agreement

Expiration Date: December 29, 2017 Prepared By: Russell Andrus

Software, Services and Hardware	
Inclusions	**Price**
Total Software	$730,565
Total Professional Services/Implementation	$175,375
Hardware and Data Conversion	$90,872
Grand Total	**$996,812**
Motorola Solutions VIP Program Discount (Details included at the end of this price proposal)	**$71,812**
Project Grand Total	**$925,000**

Ongoing Maintenance	
Inclusions	**Price**
First Year of Maintenance	Included
Second Year of Maintenance	$85,849.17
Third Year of Maintenance	$88,424.65
Fourth Year of Maintenance	$91,077.39
Fifth Year of Maintenance	$93,809.71
Sixth Year of Maintenance	$96,624.00

Spillman agrees to maintenance reduction and a 3% cap on annual maintenance increase for subsequent years on all products listed within this agreement, as part of the Motorola Solutions VIP Program.

System Core (Hub)

Modules	Licensing	Price
Master Tables – Name, Vehicle & Property		
• Stores all system information, which can be accessed from one central repository. Including master name, vehicle and property	Site License	$79,552
StateLink – FCIC/NCIC		
• Easily query State and National databases from within the system	Site License	$29,450
GIS		
• Integrates GIS data with CAD, Mobile and RMS	Site License	$0
Data Replication		
• Pull data from live database into a replicated secondary database for reporting	Site License	$0
Learning Management System (LMS)		
• Allows users to have continued training and ease of training new hires and easy refresher training	Site License	$3,602
Message Center		
• Integrated message center for ease of department wide communication	Site License	$0
Warrants		
• Store and track outstanding warrants and communicate with RMS and CAD	Site License	$0
Imaging & File Attachment		
• Easily attach and view images and various file attachments	Site License	$24,542
Insight (Data Sharing Tool)		
• Share data with surrounding agencies utilizing Spillman's Insight tool	Site License	$14,724
Crystal Reports		
• Allows users to pull statistics from Spillman utilizing Crystal Reports	Site License	$563
System Core (Hub) Total:		**$152,433**

Computer-Aided Dispatch (CAD)

Modules	Licensing	Price
CAD		
• All system modules are fully integrated, dispatchers can easily access data from any table with a single login	Site License	$49,079
CAD Mapping, Pin Mapping and AVL		
• Provides users with powerful access to location and call information based on full integration with the CAD system	Site License	$24,830
E9-1-1 Interface		
• Populates ANI/ALI automatically into the Spillman CAD system	Site License	$7,362
Response Plans		
• Provides dispatchers with a pre-determined list of response assignments and instructions for various incidents	Site License	$24,542
Premises and HazMat Information		
• Allows dispatch to quickly access premise and hazmat information for location of incident	Site License	$14,724
ProQA Interface		
• Interface with the ProQA Medical product to allow for seamless call handling	Site License	$18,751
Alarm Tracking and Billing		
• Easily track alarms and false alarms with the ability to bill those locations	Site License	$14,724
Rapid Notification (Rip n Run)		
• Allows users to configure based on call nature and the station to send emails or texts to smartphones, faxes, or a message to a network printer	Site License	$18,751
CAD Management Dashboard		
• Quickly access and view the current statistics and call data related to Dispatch	Site License	$15,194
CAD Total:		**$187,957**

Spillman Mobile

Modules	Licensing	Price
Mobile Records		
• Provides field system data access without officers leaving the vehicle or requiring dispatcher assistance	Site License	$18,751
Mobile Law and Field Interview Forms		
• Enables officers to quickly complete forms directly from the patrol vehicle	Site License	$24,542
Mobile Mapping and AVL		
• Tracks the location of all fleet units in real-time through Global Positioning System (GPS) receivers	Site License	$18,751
Mobile Quickest Route		
• Utilize GPS and GIS data to provide units with quickest routes for each call	Site License	$12,270
FL TraCS Interface		
• Interface with FL TraCS for all accident and citation reporting	Site License	$41,656
Mobile Voiceless Dispatch (Mobile CAD)		
• Enables personnel to quickly update status, as well as add/view call comments	Site License	$18,751
Spillman Touch (Smartphone/Tablet)		
• Provides access to dispatch information, and receiving call assignments using a mobile device as well as searching for name, vehicle, property, and incident records from a mobile device	Site License	$24,542
Mobile Premise & HazMat		
• Quickly access premise and hazmat information for location of incident	Site License	$7,362
Mobile State and National Queries		
• Allows users to search databases for name, vehicle, property, guns, and wanted person records and images	Site License	$18,751
Spillman Mobile Total:		**$185,376**

Records Management System (RMS)

Modules	Licensing	Price
RMS (Law Records)		
• Consolidates all law incident records into one database	Site License	$49,075
Evidence Management		
• Maintains complete and accurate chain of custody for all evidence received	Site License	$23,966
Evidence Barcode and Audit – includes 2 barcode equipment bundles		
• Allows for simplified data entry, precise labeling, and hand-held auditing of storage locations	Site License	Included in Evidence
UCR/NIBRS Reporting		
• State UCR interface and NIBRS interface	Site License	$29,450
Traffic Information and Citations		
• Delivers consistent, accurate data for shaping sound traffic safety procedures	Site License	$14,724
Pin Mapping		
• Provides accurate and timely data to analyze incidents and crime trends	Site License	$14,724
Offender Tracking		
• Track SORNA information, including offense records and risk levels	Site License	$14,724
Personnel		
• Prevents redundant entry of information based on system-wide integration	Site License	$14,724
CompStat Management Dashboard		
• Quickly access and view the current statistics and crime trend analysis of the department	Site License	$43,412
RMS Total:		**$204,799**

Hardware and Data Conversion

Products	Price
Hardware -3: 800GB SSD Drives (2.5in) for Storwize 3700 SAN (2072-24C-ACMF) -6: 2TB 7.2 2.5 Inch NL HDD for Storwize 3700 (ACLU) -24: 16GB (1x16GB, 2Rx4, 1.5V) PC3-14900 CL13 ECC DDR3 1866MHz LP RDIMM 24 (00D5048) -6: VMware vSphere Enterprise Plus (v. 6) - upgrade license - 1 processor (VS6-STD-EPL-UG-C CDW) -12: VMware Support and Subscription Production - technical support - for VMware (VS6-OEPL-P-SSS-C)	$49,882
Data Conversion -See attached scope of work for details of this conversion	$40,990
Hardware, Third Party & Interfaces Total:	**$90,872**

Professional and Implementation Services

With over 35 years of experience and more than 1,900 customer agencies throughout the United States, Spillman has a long history of maintaining successful business partnerships. During Spillman's time providing public safety solutions, we have an unprecedented implementation success rate.

Professional Services

Department	Price
Project Management – Up to **678 Hours** of service and on-site approximately **5 times**	
• All of Spillman's project managers are PMP-certified by the PMI • Single point of contact coordinates each project milestone from start to finish	
GIS Specialist	
• GIS Specialists train agency personnel Geobase set up and operation • Trainers are onsite to help build the system's street and address database	
Installation – Technicians provide up to **725 hours** of services and on-site approximately **2 times**	
• Installation team installs the Spillman software, as well as tests, adjusts, and configures the operating system • Manages server configuration, oversees system installation, and coordinates installation of external interfaces	
Training – Provide up to **589 hours** of services and on-site approximately **25 times**	
• Onsite during implementation to teach every employee how to effectively use all Spillman applications • Trainers troubleshoot live databases, identifying best practices for improvement	
Go-live	
• The Spillman project manager and training personnel provide onsite hands-on assistance at Go-live to ensure a successful transition to the Spillman software	
Customer Support	
• Achieved a 39% success rate with our one-call initiative – support needs were resolved in a single call	
Ongoing Training and Services	
• Access to **Spillman Learning Management System (LMS)** to allow for continued training and ease of training new hires and easy refresher training	
Professional Services Total*:	**$175,375**

*Professional Services Total includes all travel and per-diem for implementation

The following payment terms reflect when the Customer will pay Spillman. Milestones will be completed and verified by the Customer prior to payment to Spillman.

Boynton Beach Payment Terms		
Upon Contract Signing	20%	$185,000
Onsite Pre-Implementation Meeting with Project Manager	20%	$185,000
Installation of Hardware	20%	$185,000
Installation of State Specific and third party Interfaces	10%	$92,500
Project Go-live	30%	$277,500
Grand Total	**100%**	**$925,000**

If Boynton Beach finances the purchase the above milestones may be subject to change.

October 26, 2017

City of Boynton Beach, FL
100 East Boynton Beach Blvd.
Boynton Beach, FL 33425

Motorola Solutions VIP Program

Motorola Solutions works with its customers to develop materials that highlight successful implementations of Motorola products, solutions and services. In exchange for a significant discount on the initial purchase and ongoing maintenance, Motorola Solutions requests that Boynton Beach participate in the Motorola Solutions VIP program as an exclusive strategic partner in Palm Beach, Broward and Miami-Dade Counties. We use this agreement to secure the **City of Boynton Beach's** approval of the content included in this document.

These marketing efforts will focus on the following Motorola products, services and/or solutions: **Spillman Flex Public Safety Software**.

These customer experience materials may include your trademarks, service marks, logos and other public information about your city. The materials may include direct quotes given by you or your employees, along with their names and titles.

We ask that you review the materials, provide any edits, and allow us to use the final approved materials without compensation for sales, marketing and communications purposes on the Motorola website and in Motorola print publications and presentations as detailed in this document.

With your final approval, you confirm that the materials accurately reflect your customer experience and do not reveal information that you know is confidential. You also confirm that all specific claims or facts in the materials, such as cost savings or performance improvements, are accurate and supported by data and release Motorola from any and all claims for damages for defamation or any other claim based upon its use. You also acknowledge that you have not received anything of material value from Motorola in exchange for participation in the customer experience materials.

If someday your situation changes and you feel the customer experience materials are no longer accurate, let us know so we can remove them from our Motorola online properties, or revise accordingly. We will also use commercially reasonable efforts to notify our channel partners so they can also stop using the materials. We'll stop using the materials and advise our channel partners accordingly once you have notified us within 30 days.

The following list outlines some of the possible promotional activities that Motorola may request of Boynton Beach. The Motorola marketing and sales departments will work with Boynton Beach to determine the appropriate activities.

Sample List of Possible Promotional Activities

Blog Post. Customer participates in a blog post for joint use showcasing the customer's innovations and accomplishments with Motorola as a partner.

Case Study. Customer participates in a Motorola-published case study highlighting the customer's business challenge, solution/ service/products provided by Motorola and benefits/results realized as a result. This could be a print or a video case study.

Customer Name/Logo. Customer agrees to allow Motorola to use their company name and logo in Motorola sales and marketing materials.

Customer Quote. Customer allows Motorola to publish a quote in Motorola sales or marketing materials or on the web. May also be used for earnings announcements and/or executive presentations.

Multimedia Demonstration in Motorola marketing centers, Motorolasolutions.com and Motorola intranets and for other uses, such as in an exhibit booth.

Podcast/Webinar. Customer participates in a video and/or audio recording or broadcast of reference content, either as a speaker or through an interview format.

Press Activity/Press Release. Customer is willing to participate in a press release and/or customer speaks with reporters to provide background for published articles in business and/or trade press.

Speaking Engagement/Event Participation. Customer is willing to participate in a panel discussion or present at an industry conference, analyst event or Motorola-sponsored event.

Success Story Slide. Customer allows Motorola to create a PPT slide or slide set on their engagement.

Reference Call. Customer agrees to speak via telephone with a prospective Motorola customer.

Written Reference. Willing to complete a question/metrics document for a prospective customer proposal.

RFI/RFP. Customer company name and contact listed in Motorola-submitted proposals to prospective customers.

Site Visit. Customer agrees to host a prospective Motorola customer at their site.

Regional Trainings. Customer agrees to host potential regional trainings and/or users' group meetings.

Open House. Customer agrees to host potential open house marketing events, which highlight the product and the agency's use of the product to neighboring agencies.

MOTOROLA SOLUTIONS

Date: November 2, 2017

Financing proposal for: **Boynton Beach**

Motorola Customer Financing recognizes that each opportunity presents unique issues and characteristics. Therefore, our approach involves understanding our customer's operational goals and financial objectives. ***Should you feel another financing structure is required, Motorola Customer Financing would welcome the opportunity to work with you.***

Transaction Type:	Municipal Lease-Purchase Agreement / Tax Exempt Financing
Lessor:	Motorola Solutions, Inc. (or its Assignee)
Lessee:	**Boynton Beach**
Amount:	$575,000.00
Down Payment:	$0.00
Balance to Finance:	$575,000.00
Equipment:	As per the Motorola Solutions equipment proposal.
Title, Insurance, & Maintenance	Title to the equipment will vest with the Lessee, and the Lessee will be responsible to insure & maintain the equipment as outlined in the lease contract.
Taxes:	Personal property, sales, leasing, use, stamp, or other taxes are for the account of the Lessee.
	Option One
Lease Term:	Four Years
Payment Frequency:	Annual
Lease Rate:	3.57%
Lease Factor:	0.272704
Lease Payment:	$156,804.63
Payment Structure:	Arrears
Payment Commencement:	First payment due one year after contract execution.

Please be advised the rates and payment streams above are valid for lease purchase contracts executed and returned NO LATER than: **11/25/2017**

Program Highlights:

Low, tax exempt financing interest rates…the ***cheapest & easiest*** way for State & Locals to raise cash.

Eliminate miscellaneous financing costs associated with bonding…***NO*** special counsel fees, underwriter's fees, origination costs, or reserve fund requirements. ***Every dollar you borrow gets allocated towards your project.***

No pre-payment penalties provided payment is made on a regularly scheduled lease payment date.

Lease Payments are subject to annual appropriation, so the Lessee ***DOES NOT*** pledge its full faith and credit.

Future equipment upgrades can easily be accommodated via add-on lease schedules, restructuring already existing deals, etc.

Qualifications:

Receipt of a properly executed documentation package.

The interest portion of the Lease Payments shall be excludable from the Lessor's gross income pursuant to Section 103 of the Internal Revenue Code.

Receipt of a copy of the last 2 year's audited financial statements and current year's budget from the Lessee.

This proposal should not be construed as a commitment to finance. It is subject to final credit approval.

For questions concerning this quote, please contact:

Drew Knipfer
Motorola Solutions Credit Company LLC
847-906-8180
andrew.knipfer2@motorolasolutions.com

MOTOROLA SOLUTIONS

[SAMPLE LEASE]

August 25, 2017

CUSTOMER

Enclosed for your review, please find the **Municipal Lease** documentation in connection with the radio equipment to be lease purchased from Motorola Solutions Inc. The interest rate and payment streams outlined in Equipment Lease Purchase Agreement #123456 are valid for contracts that are executed and returned on or before **September 30, 2017**. After **9/30/17**, the Lessor reserves the option to re-quote and re-price the transaction based on current market interest rates.

Please have the documents executed where indicated and forward the documents to the following address:

Motorola Solutions Credit Company LLC
Attn: Andrew Knipfer / 44th Floor
500 W. Monroe
Chicago, IL 60661

Should you have any questions, please contact me at 847-906-8180 or Andrew.knipfer2@motorolasolutions.com.

Thank You,

MOTOROLA SOLUTIONS CREDIT COMPANY LLC
Andrew Knipfer

LESSEE FACT SHEET

[SAMPLE LEASE]

Please help Motorola Solutions Inc. provide excellent billing service by providing the following information:

1. Complete **Billing** Address CUSTOMER

_____

_____

Attention: _____

Phone: _____

2. Lessee County Location: _____

3. Federal Tax I.D. Number _____

4. Purchase Order Number to be referenced on invoice (if necessary) or other "descriptions" that may assist in determining the applicable cost center or department: _____

5. Equipment description that you would like to appear on your invoicing: _____

Appropriate Contact for Documentation / System Acceptance Follow-up:

6. Appropriate Contact & Mailing Address _____

_____

_____

_____

E-mail: _____

Phone: _____

Fax: _____

7. Payment remit to address: **Motorola Solutions Credit Company LLC**
P.O. Box 71132
Chicago IL 60694-1132

Thank you

EQUIPMENT LEASE-PURCHASE AGREEMENT
[SAMPLE LEASE]

Lease Number: 123456

LESSEE:
CUSTOMER
N. Main Street
Chicago, IL

LESSOR:
Motorola Solutions, Inc.
500 W. Monroe
Chicago, IL 60661

Lessor agrees to lease to Lessee and Lessee agrees to lease from Lessor, the equipment and/or software described in Schedule A attached hereto ("Equipment") in accordance with the following terms and conditions of this Equipment Lease-Purchase Agreement ("Lease").

1. TERM. This Lease will become effective upon the execution hereof by Lessor. The Term of this Lease will commence on date specified in Schedule A attached heretoand unless terminated according to terms hereof or the purchase option, provided in Section 18, is exercised this Lease will continue until the Expiration Date set forth in Schedule B attached hereto ("Lease Term").

2. RENT. Lessee agrees to pay to Lessor or its assignee the Lease Payments (herein so called), including the interest portion , in the amounts specified in Schedule B. The Lease Payments will be payable without notice or demand at the office of the Lessor (or such other place as Lessor or its assignee may from time to time designate in writing), and will commence on the first Lease Payment Date as set forth in Schedule B and thereafter on each of the Lease Payment Dates set forth in Schedule B. Any payments received later than ten (10) days from the due date will bear interest at the highest lawful rate from the due date. Except as specifically provided in Section 5 hereof, the Lease Payments will be absolute and unconditional in all events and will not be subject to any set-off, defense, counterclaim, or recoupment for any reason whatsoever. Lessee reasonably believes that funds can be obtained sufficient to make all Lease Payments during the Lease Term and hereby covenants that a request for appropriation for funds from which the Lease Payments may be made will be requested each fiscal period, including making provisions for such payment to the extent necessary in each budget submitted for the purpose of obtaining funding. It is Lessee's intent to make Lease Payment for the full Lease Term if funds are legally available therefore and in that regard Lessee represents that the Equipment will be used for one or more authorized governmental or proprietary functions essential to its proper, efficient and economic operation.

3. DELIVERY AND ACCEPTANCE. Lessor will cause the Equipment to be delivered to Lessee at the location specified in Schedule A ("Equipment Location"). Lessee will accept the Equipment as soon as it has been delivered and is operational. Lessee will evidence its acceptance of the Equipment by executing and delivering to Lessor a Delivery and Acceptance Certificate in the form provided by Lessor.

Even if Lessee has not executed and delivered to Lessor a Delivery and Acceptance Certificate, if Lessor believes the Equipment has been delivered and is operational, Lessor may require Lessee to notify Lessor in writing (within five (5) days of Lessee's receipt of Lessor's request) whether or not Lessee deems the Equipment (i) to have been delivered and (ii) to be operational, and hence be accepted by Lessee. If Lessee fails to so respond in such five (5) day period, Lessee will be deemed to have accepted the Equipment and be deemed to have acknowledged that the Equipment was delivered and is operational as if Lessee had in fact executed and delivered to Lessor a Delivery and Acceptance Certificate.

4. REPRESENTATIONS AND WARRANTIES. Lessor acknowledges that the Equipment leased hereunder is being manufactured and installed by Lessor pursuant to contract (the "Contract") covering the Equipment. Lessee acknowledges that on or prior to the date of acceptance of the Equipment, Lessor

intends to sell and assign Lessor's right, title and interest in and to this Agreement and the Equipment to an assignee ("Assignee"). LESSEE FURTHER ACKNOWLEDGES THAT EXCEPT AS EXPRESSLY SET FORTH IN THE CONTRACT, LESSOR MAKES NO EXPRESS OR IMPLIED WARRANTIES OF ANY NATURE OR KIND WHATSOEVER, AND AS BETWEEN LESSEE AND THE ASSIGNEE, THE PROPERTY SHALL BE ACCEPTED BY LESSEE "AS IS" AND "WITH ALL FAULTS". LESSEE AGREES TO SETTLE ALL CLAIMS DIRECTLY WITH LESSOR AND WILL NOT ASSERT OR SEEK TO ENFORCE ANY SUCH CLAIMS AGAINST THE ASSIGNEE. NEITHER LESSOR NOR THE ASSIGNEE SHALL BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES OF ANY CHARACTER AS A RESULT OF THE LEASE OF THE EQUIPMENT, INCLUDING WITHOUT LIMITATION, LOSS OF PROFITS, PROPERTY DAMAGE OR LOST PRODUCTION WHETHER SUFFERED BY LESSEE OR ANY THIRD PARTY.

Lessor is not responsible for, and shall not be liable to Lessee for damages relating to loss of value of the Equipment for any cause or situation (including, without limitation, governmental actions or regulations or actions of other third parties).

5. NON-APPROPRIATION OF FUNDS. Notwithstanding anything contained in this Lease to the contrary, Lessee has the right to not appropriate funds to make Lease Payments required hereunder in any fiscal period and in the event no funds are appropriated or in the event funds appropriated by Lessee's governing body or otherwise available by any lawful means whatsoever in any fiscal period of Lessee for Lease Payments or other amounts due under this Lease are insufficient therefor, this Lease shall terminate on the last day of the fiscal period for which appropriations were received without penalty or expense to Lessee of any kind whatsoever, except as to the portions of Lease Payments or other amounts herein agreed upon for which funds shall have been appropriated and budgeted or are otherwise available. The Lessee will immediately notify the Lessor or its Assignee of such occurrence. In the event of such termination, Lessee agrees to peaceably surrender possession of the Equipment to Lessor or its Assignee on the date of such termination, packed for shipment in accordance with manufacturer specifications and freight prepaid and insured to any location in the continental United States designated by Lessor. Lessor will have all legal and equitable rights and remedies to take possession of the Equipment. Non-appropriation of funds shall not constitute a default hereunder for purposes of Section 16.

6. LESSEE CERTIFICATION. Lessee represents, covenants and warrants that: (i) Lessee is a state or a duly constituted political subdivision or agency of the state of the Equipment Location; (ii) the interest portion of the Lease Payments shall be excludable from Lessor's gross income pursuant to Section 103 of the Internal Revenue Code of 1986, as it may be amended from time to time (the "Code"); (iii) the execution, delivery and performance by the Lessee of this Lease have been duly authorized by all necessary action on the part of the Lessee; (iv) this Lease constitutes a legal, valid and binding obligation of the Lessee enforceable in accordance with its terms; (v) Lessee will comply with the information reporting requirements of Section 149(e) of the Internal Revenue Code of 1986 (the "Code"), and such compliance shall include but not be limited to the execution of information statements requested by Lessor; (vi) Lessee will not do or cause to be done any act which will cause, or by omission of any act allow, the Lease to be an arbitrage bond within the meaning of Section 148(a) of the Code; (vii) Lessee will not do or cause to be done any act which will cause, or by omission of any act allow, this Lease to be a private activity bond within the meaning of Section 141(a) of the Code; (viii) Lessee will not do or cause to be done any act which will cause, or by omission of any act allow, the interest portion of the Lease Payment to be or become includible in gross income for Federal income taxation purposes under the Code; and (ix) Lessee will be the only entity to own, use and operate the Equipment during the Lease Term.

Lessee represents, covenants and warrants that: (i) it will do or cause to be done all things necessary to preserve and keep the Lease in full force and effect, (ii) it has complied with all laws relative to public bidding where necessary, and (iii) it has sufficient appropriations or other funds available to pay all amounts due hereunder for the current fiscal period.

If Lessee breaches the covenant contained in this Section, the interest component of Lease Payments may become includible in gross income of the owner or owners thereof for federal income tax purposes. In such event, notwithstanding anything to the contrary contained in Section 11 of this Agreement, Lessee agrees to pay promptly after any such determination of taxability and on each Lease Payment date thereafter to Lessor an additional amount determined by Lessor to compensate such owner or owners for the loss of such excludibility (including, without limitation, compensation relating to interest expense, penalties or additions to tax), which determination shall be conclusive (absent manifest error). Notwithstanding anything herein to the contrary, any additional amount payable by Lessee pursuant to this Section 6 shall be payable solely from Legally Available Funds.

It is Lessor's and Lessee's intention that this Agreement not constitute a "true" lease for federal income tax purposes and, therefore, it is Lessor's and Lessee's intention that Lessee be considered the owner of the Equipment for federal income tax purposes.

7. TITLE TO EQUIPMENT; SECURITY INTEREST. Upon shipment of the Equipment to Lessee hereunder, title to the Equipment will vest in Lessee subject to any applicable license; provided, however, that (i) in the event of termination of this Lease by Lessee pursuant to Section 5 hereof; or (ii) upon the occurrence of an Event of Default hereunder, and as long as such Event of Default is continuing, title will immediately vest in Lessor or its Assignee, and Lessee shall immediately discontinue use of the Equipment, remove the Equipment from Lessee's computers and other electronic devices and deliver the Equipment to Lessor or its Assignee. In order to secure all of its obligations hereunder, Lessee hereby (i) grants to Lessor a first and prior security interest in any and all right, title and interest of Lessee in the Equipment and in all additions, attachments, accessions, and substitutions thereto, and on any proceeds therefrom; (ii) agrees that this Lease may be filed as a financing statement evidencing such security interest; and (iii) agrees to execute and deliver all financing statements, certificates of title and other instruments necessary or appropriate to evidence such security interest.

8. USE; REPAIRS. Lessee will use the Equipment in a careful manner for the use contemplated by the manufacturer of the Equipment and shall comply with all laws, ordinances, insurance policies, the Contract, any licensing or other agreement, and regulations relating to, and will pay all costs, claims, damages, fees and charges arising out of the possession, use or maintenance of the Equipment. Lessee, at its expense will keep the Equipment in good repair and furnish and/or install all parts, mechanisms, updates, upgrades and devices required therefor.

9. ALTERATIONS. Lessee will not make any alterations, additions or improvements to the Equipment without Lessor's prior written consent unless such alterations, additions or improvements may be readily removed without damage to the Equipment.

10. LOCATION; INSPECTION. The Equipment will not be removed from, [or if the Equipment consists of rolling stock, its permanent base will not be changed from] the Equipment Location without Lessor's prior written consent which will not be unreasonably withheld. Lessor will be entitled to enter upon the Equipment Location or elsewhere during reasonable business hours to inspect the Equipment or observe its use and operation.

11. LIENS AND TAXES. Lessee shall keep the Equipment free and clear of all levies, liens and encumbrances except those created under this Lease. Lessee shall pay, when due, all charges and taxes (local, state and federal) which may now or hereafter be imposed upon the ownership, licensing, leasing, rental, sale, purchase, possession or use of the Equipment, excluding however, all taxes on or measured by Lessor's income. If Lessee fails to pay said charges and taxes when due, Lessor shall have the right, but shall not be obligated, to

pay said charges and taxes. If Lessor pays any charges or taxes, Lessee shall reimburse Lessor therefor within ten days of written demand.

12. RISK OF LOSS: DAMAGE; DESTRUCTION. Lessee assumes all risk of loss or damage to the Equipment from any cause whatsoever, and no such loss of or damage to the Equipment nor defect therein nor unfitness or obsolescence thereof shall relieve Lessee of the obligation to make Lease Payments or to perform any other obligation under this Lease. In the event of damage to any item of Equipment, Lessee will immediately place the same in good repair with the proceeds of any insurance recovery applied to the cost of such repair. If Lessor determines that any item of Equipment is lost, stolen, destroyed or damaged beyond repair (an "Event of Loss"), Lessee at the option of Lessor will: either (a) replace the same with like equipment in good repair; or (b) on the next Lease Payment date, pay Lessor the sum of : (i) all amounts then owed by Lessee to Lessor under this Lease, including the Lease payment due on such date; and (ii) an amount equal to all remaining Lease Payments to be paid during the Lease Term as set forth in Schedule B.

In the event that Lessee is obligated to make such payment with respect to less than all of the Equipment, Lessor will provide Lessee with the pro rata amount of the Lease Payment and the Balance Payment (as set forth in Schedule B) to be made by Lessee with respect to that part of the Equipment which has suffered the Event of Loss.

13. INSURANCE. Lessee will, at its expense, maintain at all times during the Lease Term, fire and extended coverage, public liability and property damage insurance with respect to the Equipment in such amounts, covering such risks, and with such insurers as shall be satisfactory to Lessor, or, with Lessor's prior written consent, Lessee may self-insure against any or all such risks. All insurance covering loss of or damage to the Equipment shall be carried in an amount no less than the amount of the then applicable Balance Payment with respect to such Equipment. The initial amount of insurance required is set forth in Schedule B. Each insurance policy will name Lessee as an insured and Lessor or it's Assigns as an additional insured, and will contain a clause requiring the insurer to give Lessor at least thirty (30) days prior written notice of any alteration in the terms of such policy or the cancellation thereof. The proceeds of any such policies will be payable to Lessee and Lessor or it's Assigns as their interests may appear. Upon acceptance of the Equipment and upon each insurance renewal date, Lessee will deliver to Lessor a certificate evidencing such insurance. In the event that Lessee has been permitted to self-insure, Lessee will furnish Lessor with a letter or certificate to such effect. In the event of any loss, damage, injury or accident involving the Equipment, Lessee will promptly provide Lessor with written notice thereof and make available to Lessor all information and documentation relating thereto.

14. INDEMNIFICATION. Lessee shall, to the extent permitted by law, indemnify Lessor against, and hold Lessor harmless from, any and all claims, actions, proceedings, expenses, damages or liabilities, including attorneys' fees and court costs, arising in connection with the Equipment, including, but not limited to, its selection, purchase, delivery, licensing, possession, use, operation, rejection, or return and the recovery of claims under insurance policies thereon.

15. ASSIGNMENT. Without Lessor's prior written consent, Lessee will not either (i) assign, transfer, pledge, hypothecate, grant any security interest in or otherwise dispose of this Lease or the Equipment or any interest in this Lease or the Equipment or; (ii) sublet or lend the Equipment or permit it to be used by anyone other than Lessee or Lessee's employees. Lessor may assign its rights, title and interest in and to this Lease, the Equipment and any documents executed with respect to this Lease and/or grant or assign a security interest in this Lease and the Equipment, in whole or in part. Any such assignees shall have all of the rights of Lessor under this Lease. Subject to the foregoing, this Lease inures to the benefit of and is binding upon the heirs, executors, administrators, successors and assigns of the parties hereto.

Lessee covenants and agrees not to assert against the Assignee any claims or defenses by way of abatement, setoff, counterclaim, recoupment or the like which Lessee may have against Lessor. No assignment

or reassignment of any Lessor's right, title or interest in this Lease or the Equipment shall be effective unless and until Lessee shall have received a notice of assignment, disclosing the name and address of each such assignee; provided, however, that if such assignment is made to a bank or trust company as paying or escrow agent for holders of certificates of participation in the Lease, it shall thereafter be sufficient that a copy of the agency agreement shall have been deposited with Lessee until Lessee shall have been advised that such agency agreement is no longer in effect. During the Lease Term Lessee shall keep a complete and accurate record of all such assignments in form necessary to comply with Section 149(a) of the Code, and the regulations, proposed or existing, from time to time promulgated thereunder. No further action will be required by Lessor or by Lessee to evidence the assignment, but Lessee will acknowledge such assignments in writing if so requested.

After notice of such assignment, Lessee shall name the Assignee as additional insured and loss payee in any insurance policies obtained or in force. Any Assignee of Lessor may reassign this Lease and its interest in the Equipment and the Lease Payments to any other person who, thereupon, shall be deemed to be Lessor's Assignee hereunder.

16. EVENT OF DEFAULT. The term "Event of Default", as used herein, means the occurrence of any one or more of the following events: (i) Lessee fails to make any Lease Payment (or any other payment) as it becomes due in accordance with the terms of the Lease when funds have been appropriated sufficient for such purpose, and any such failure continues for ten (10) days after the due date thereof; (ii) Lessee fails to perform or observe any other covenant, condition, or agreement to be performed or observed by it hereunder and such failure is not cured within twenty (20) days after written notice thereof by Lessor; (iii) the discovery by Lessor that any statement, representation, or warranty made by Lessee in this Lease or in writing delivered by Lessee pursuant hereto or in connection herewith is false, misleading or erroneous in any material respect; (iv) proceedings under any bankruptcy, insolvency, reorganization or similar legislation shall be instituted against or by Lessee, or a receiver or similar officer shall be appointed for Lessee or any of its property, and such proceedings or appointments shall not be vacated, or fully stayed, within twenty (20) days after the institution or occurrence thereof; or (v) an attachment, levy or execution is threatened or levied upon or against the Equipment.

17. REMEDIES. Upon the occurrence of an Event of Default, and as long as such Event of Default is continuing, Lessor may, at its option, exercise any one or more of the following remedies: (i) by written notice to Lessee, declare all amounts then due under the Lease, and all remaining Lease Payments due during the fiscal period in effect when the default occurs to be immediately due and payable, whereupon the same shall become immediately due and payable; (ii) by written notice to Lessee, request Lessee to (and Lessee agrees that it will), at Lessee's expense, promptly discontinue use of the Equipment, remove the Equipment from all of Lessee's computers and electronic devices, return the Equipment to Lessor in the manner set forth in Section 5 hereof, or Lessor, at its option, may enter upon the premises where the Equipment is located and take immediate possession of and remove the same; (iii) sell or lease the Equipment or sublease it for the account of Lessee, holding Lessee liable for all Lease Payments and other amounts due prior to the effective date of such selling, leasing or subleasing and for the difference between the purchase price, rental and other amounts paid by the purchaser, Lessee or sublessee pursuant to such sale, lease or sublease and the amounts payable by Lessee hereunder; (iv) promptly return the Equipment to Lessor in the manner set forth in Section 5 hereof; and (v) exercise any other right, remedy or privilege which may be available to it under applicable laws of the state of the Equipment Location or any other applicable law or proceed by appropriate court action to enforce the terms of the Lease or to recover damages for the breach of this Lease or to rescind this Lease as to any or all of the Equipment. In addition, Lessee will remain liable for all covenants and indemnities under this Lease and for all legal fees and other costs and expenses, including court costs, incurred by Lessor with respect to the enforcement of any of the remedies listed above or any other remedy available to Lessor.

18. PURCHASE OPTION. Upon thirty (30) days prior written notice from Lessee to Lessor, and provided that no Event of Default has occurred and is continuing, or no event, which with notice or lapse of time, or both could become an Event of Default, then exists, Lessee will have the right to purchase the

Equipment on the Lease Payment dates set forth in Schedule B by paying to Lessor, on such date, the Lease Payment then due together with the Balance Payment amount set forth opposite such date. Upon satisfaction by Lessee of such purchase conditions, Lessor will transfer any and all of its right, title and interest in the Equipment to Lessee as is, without warranty, express or implied, except that the Equipment is free and clear of any liens created by Lessor.

19. NOTICES. All notices to be given under this Lease shall be made in writing and mailed by certified mail, return receipt requested, to the other party at its address set forth herein or at such address as the party may provide in writing from time to time. Any such notice shall be deemed to have been received five days subsequent to such mailing.

20. SECTION HEADINGS. All section headings contained herein are for the convenience of reference only and are not intended to define or limit the scope of any provision of this Lease.

21. GOVERNING LAW. This Lease shall be construed in accordance with, and governed by the laws of, the state of the Equipment Location.

22. DELIVERY OF RELATED DOCUMENTS. Lessee will execute or provide, as requested by Lessor, such other documents and information as are reasonably necessary with respect to the transaction contemplated by this Lease.

23. ENTIRE AGREEMENT; WAIVER. This Lease, together with Schedule A Equipment Lease-Purchase Agreement, Schedule B, Evidence of Insurance, Statement of Essential Use/Source of Funds, Certificate of Incumbency, Certified Lessee Resolution (if any), Bank Qualified Statement, Information Return for Tax-Exempt Governmental Obligations and the Delivery and Acceptance Certificate and other attachments hereto, and other documents or instruments executed by Lessee and Lessor in connection herewith, constitutes the entire agreement between the parties with respect to the Lease of the Equipment, and this Lease shall not be modified, amended, altered, or changed except with the written consent of Lessee and Lessor. Any provision of the Lease found to be prohibited by law shall be ineffective to the extent of such prohibition without invalidating the remainder of the Lease.

The waiver by Lessor of any breach by Lessee of any term, covenant or condition hereof shall not operate as a waiver of any subsequent breach thereof.

24. EXECUTION IN COUNTERPARTS. This Lease may be executed in several counterparts, each of which shall be deemed an original and all of which shall constitute but one and the same instrument.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the _____ day of September, 2017.

[SAMPLE LEASE]

LESSEE:	**LESSOR:**
CUSTOMER	**MOTOROLA SOLUTIONS, INC.**
By:_____	By:_____
Print Name: _____	
Title:_____	Title:_____

CERTIFICATE OF INCUMBENCY

I, _____ do hereby certify that I am the duly elected or
(Printed Name of Secretary/Clerk)

appointed and acting Secretary or Clerk of the CUSTOMER**,** an entity duly organized and existing under the laws of the **State of Illinois** that I have custody of the records of such entity, and that, as of the date hereof, the individual(s) executing this agreement is/are the duly elected or appointed officer(s) of such entity holding the office(s) below his/her/their respective name(s). I further certify that (i) the signature(s) set forth above his/her/their respective name(s) and title(s) is/are his/her/their true and authentic signature(s) and (ii) such officer(s) have the authority on behalf of such entity to enter into that certain Equipment Lease Purchase Agreement number **123456**, between CUSTOMER and Motorola Solutions, Inc. If the initial insurance requirement on Schedule B exceeds $1,000,000, attached as part of the Equipment Lease Purchase Agreement is a Certified Lessee Resolution adopted by the governing body of the entity.

IN WITNESS WHEREOF, I have executed this certificate and affixed the seal of CUSTOMER, hereto this

_____ day of September, 2017.

By: _____

(Signature of Secretary/Clerk) **SEAL**

OPINION OF COUNSEL

With respect to that certain Equipment Lease-Purchase Agreement 123456 by and between Motorola Solutions, Inc. and the Lessee, I am of the opinion that: (i) the Lessee is, within the meaning of Section 103 of the Internal Revenue Code of 1986, a state or a fully constituted political subdivision or agency of the State of the Equipment Location described in Schedule A hereto; (ii) the execution, delivery and performance by the Lessee of the Lease have been duly authorized by all necessary action on the part of the Lessee, (III) the Lease constitutes a legal, valid and binding obligation of the Lessee enforceable in accordance with its terms; and (iv) Lessee has sufficient monies available to make all payments required to be paid under the Lease during the current fiscal year of the Lease, and such monies have been properly budgeted and appropriated for this purpose in accordance with State law. This opinion may be relied upon by the Lessor and any assignee of the Lessor's rights under the Lease.

_____

Attorney for CUSTOMER

SCHEDULE A
EQUIPMENT LEASE-PURCHASE AGREEMENT
[SAMPLE LEASE]

Schedule A Lease Number: **123456**

This Equipment Schedule is hereby attached to and made a part of that certain Equipment Lease-Purchase Agreement Number **123456** ("Lease"), between MOTOROLA SOLUTIONS INC. ("Lessor") and CUSTOMER (" Lessee").

Lessor hereby leases to Lessee under and pursuant to the Lease, and Lessee hereby accepts and leases from Lessor under and pursuant to the Lease, subject to and upon the terms and conditions set forth in the Lease and upon the terms set forth below, the following items of Equipment

QUANTITY	**DESCRIPTION (Manufacturer, Model, and Serial Nos.)**
	Refer to attached Equipment List.
Equipment Location:	

Initial Term: 84 Months

Commencement Date: **9/30/2017**
First Payment Due Date: **9/30/2018**

7 consecutive annual payments as outlined in the attached Schedule B, plus Sales/Use Tax of $0.00, payable on the Lease Payment Dates set forth in Schedule B.

Lessee: CUSTOMER

Schedule B (Lease #123456)

[SAMPLE LEASE]

Amortization Schedule will be included below:

INITIAL INSURANCE REQUIREMENT: Face Value of Lease

Except as specifically provided in Section five of the Lease hereof, Lessee agrees to pay to Lessor or its assignee the Lease Payments, including the interest portion, in the amounts and dates specified in the above payment schedule.

EVIDENCE OF INSURANCE

Fire, extended coverage, public liability and property damage insurance for all of the Equipment listed on Schedule A number **123456** to that Equipment Lease Purchase Agreement number **123456** will be maintained by **CUSTOMER** as stated in the Equipment Lease Purchase Agreement.

This insurance is provided by:

_____
Name of insurance provider

_____
Address of insurance provider

_____
City, State and Zip Code

_____
Phone number of local insurance provider

_____
E-mail address

In accordance with the Equipment Lease Purchase Agreement Number **123456**, **CUSTOMER,** hereby certifies that following coverage are or will be in full force and effect:

Type	**Amount**	**Effective Date**	**Expiration Date**	**Policy Number**
Fire and Extended Coverage	_____	_____	_____	_____
Property Damage	_____	_____	_____	_____
Public Liability	_____	_____	_____	_____

Certificate shall include the following:
Description: All Equipment listed on Schedule A number 123456 to that Equipment Lease Purchase Agreement number 123456. Please include equipment cost equal to the Initial Insurance Requirement on Schedule B to Equipment Lease Purchase Agreement number 123456 and list any deductibles.

Certificate Holder:
MOTOROLA SOLUTIONS, INC. and or its assignee as additional insured and loss payee
500 W Monroe
Chicago, IL 60661

If self insured, contact Motorola representative for template of self insurance letter.

STATEMENT OF ESSENTIAL USE/SOURCE OF FUNDS (# 123456)
[SAMPLE LEASE]

To further understand the essential governmental use intended for the equipment together with an understanding of the sources from which payments will be made, **please address the following questions** by completing this form or by sending a separate letter:

1. What is the specific use of the equipment?

2. Why is the equipment essential to the operation of **CUSTOMER?**

3. Does the equipment replace existing equipment?

If so, why is the replacement being made?

4. Is there a specific cost justification for the new equipment?

If yes, please attach outline of justification.

5. What is the expected source of funds for the payments due under the Lease for the current fiscal year and future fiscal years?

General Fund
- Have dollars already been appropriated for the Lease Payment? Yes -or- No

- If yes, for what fiscal year(s) have appropriations been made? _____

Combination of Federal Grant funding supplemented by General Revenues

- What fiscal year(s) is expected to be funded via federal grants: _____

- What fiscal year(s) is expected to be funded via general revenues: _____

- Have these general revenues already been appropriated for the Lease Payment(s)? Yes -or- No

Other (please describe): _____

_____

Bank Qualified Statement (Lease# 123456)

[SAMPLE LEASE]

LESSEE CERTIFIES THAT IT ***(circle one)*** HAS **or** HAS NOT

DESIGNATED THIS LEASE AS A QUALIFIED TAX-EXEMPT OBLIGATION IN ACCORDANCE WITH SECTION 265(b)(3) OF THE CODEAND IF THE LESSEE HAS DESIGNATED THIS LEASE AS A QUALIFIED TAX-EXEMPT OBLIGATION, IT HAS NOT DESIGNATED MORE THAN $10,000,000 OF ITS OBLIGATIONS AS QUALIFIED TAX-EXEMPT OBLIGATIONS IN ACCORDANCE WITH SUCH SECTION FOR THE CURRENT CALENDAR YEAR AND THAT IT REASONABLY ANTICIPATES THAT THE TOTAL AMOUNT OF TAX-EXEMPT OBLIGATIONS TO BE ISSUED BY LESSEE DURING THE CURRENT CALENDAR YEAR WILL NOT EXCEED $10,000,000.

CERTIFIED LESSEE RESOLUTION (Lease# 123456)
[SAMPLE LEASE]

At a duly called meeting of the Governing Body of the Lessee (as defined in the Lease) held on or before the execution date of the Lease, the following resolution was introduced and adopted. BE IT RESOLVED by the Governing Board of Lessee as follows:

1. Determination of Need. The Governing Body of Lessee has determined that a true and very real need exists for the acquisition of the Equipment or other personal property described in the Lease between CUSTOMER (Lessee) and Motorola Solutions, Inc. (Lessor).

2. Approval and Authorization. The Governing body of Lessee has determined that the Lease, substantially in the form presented to this meeting, is in the best interests of the Lessee for the acquisition of such Equipment or other personal property, and the Governing Board hereby approves the entering into of the Lease by the Lessee and hereby designates and authorizes the following person(s) referenced in the Lease to execute and deliver the Lease on Lessee's behalf with such changes thereto as such person deems appropriate, and any related documents, including any escrow agreement, necessary to the consummation of the transactions contemplated by the Lease.

3. Adoption of Resolution. The signatures in the Lease from the designated individuals for the Governing Body of the Lessee evidence the adoption by the Governing Body of this Resolution.

EQUIPMENT LEASE PURCHASE AGREEMENT DELIVERY AND ACCEPTANCE CERTIFICATE

The undersigned Lessee hereby acknowledges receipt of the Equipment described below ("Equipment") and Lessee hereby accepts the Equipment after full inspection thereof as satisfactory for all purposes of lease Schedule A to the Equipment Lease Purchase Agreement executed by Lessee and Lessor.

Equipment Lease Purchase Agreement No.:123456 Lease Schedule A No. :123456

EQUIPMENT INFORMATION

QUANTITY	MODEL NUMBER	EQUIPMENT DESCRIPTION
		Equipment referenced in lease Schedule A# 123456. See Schedule A for a detailed Equipment List.

LESSEE:

CUSTOMER

By: _____

Date: _____

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
Authorize utilizing the State of Florida Alternate Contract #43211500-WSCA-15-ACS for the purchase of Datrium DVS compute nodes, data nodes, and host software from Transource Services Corp in the amount of $186,329.56. The City is allowed to purchase from State of Florida Contracts.

EXPLANATION OF REQUEST:
Contract Period: September 30, 2015 - March 31, 2020
Server/Storage/Disaster Recovery project
The I.T.S. Department has Capital projects to replace servers and storage in the City's Disaster Recovery datacenter and to expand the Exagrid backup appliance capacity in the Fire Station #5 datacenter. The Utilities Department has a C.I.P. project to replace storage in the Utilities datacenter. After viewing demos from Datrium DVX, Dell EMC VxRail, HPE Simplivity, Nutanix, and Scale Computing, the ITS Network Team selected Datrium DVX based on a combination of pricing and features.

Manufacturer/Vendor	Quoted Price
Datrium/Transource	$186,725.56
Simplivity/Champion Solutions Group	$281.980.94
Nutanix/CDWG	$342,470.90

Note: Scale computing does not support VMware and was eliminated. Dell/EMC VxRail was not quoted because the vendor stated the price would be above our stated budget.
The Datrium DVS solution, when implemented in all three City datacenters, will fulfill the original intent of the separate C.I.P. projects.
This purchase is partially funded by Local Government Surtax Funds.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
The servers and storage (SAN's) in the Utilities Datacenter and the City's Disaster Recovery datacenter are past end-of life. Replacing the end-of-life equipment with the new Datrium DVX equipment will ensure continued reliable and efficient service. In addition, the Datrium DVX Data node for the City's Disaster Recovery datacenter has been sized so that all data stored on the Datrium DVX systems in the Fire Station #5 datacenter and Utilities datacenter can be replicated to it. The Datrium DVX Compute nodes for the City's Disaster Recovery datacenter has been sized to handle the critical load from both Fire Station #5 datacenter and Utilities datacenter.
Installation of the Datrium DVX system in the three datacenters will also allow the City to shorten the RPO (Recovery Point Objective) from 24 hours to as few as 10 minutes and the RTO (Recovery Time Objective) from approximately 4 hours to under 5 minutes. RPO describes the interval of time that might pass during a disruption before the quantity of data lost during that period exceeds the maximum allowable threshold or tolerance. RTO is the duration of time within which a business process must be restored after a disaster in order to avoid unacceptable consequences associated with a break in continuity.

FISCAL IMPACT: Budgeted
Funding has been approved during this year's capital improvement plan budget from four CIP projects;

- Server Replacement (Account # 303-4101-580.64-15 - CIP Project # IT1813) in the amount of

$45,000.

- Exagrid Backup Appliance (Account # 303-4101-580.64-15 - CIP Project # IT21805) in the amount of $18,526.14 .
- Replace Storage SAN at Disaster Recovery Site (Account # 303-4101-580.64-15 - CIP Project # IT21806) in the amount of $50,000.00.
- Utilities SAN Replacement (Account # 403-5000-536.31-90 - CIP Project # US1801) in the amount of $72,803.42

ALTERNATIVES:
Not approve this purchase and the City prepare its own Bid/RFP.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Attachment	St of FL Participating AGT 43211500
Attachment	WSCA-NASPO Master Agreement
Attachment	St of FL-Transource Info
Quotes	Transource Quote
Other	NASPO - Datrium Price List

AMENDMENT NO.: 1 **-** Renewal

PARTICIPATING ADDENDUM
NASPO ValuePoint Cooperative Procurement Program
COMPUTER EQUIPMENT MASTER AGREEMENT
Master Agreement No: MNWNC-130
Transource Service Corporation
And
The State of Florida
Alternate Contract Source No. 43211500-WSCA-15-ACS

This Amendment ("Amendment") effective April 1, 2017, to the Computer Equipment, Peripherals, & Services Contract No. 43211500-WSCA-15-ACS ("Contract"), between the State of Florida, Department of Management Services ("Department") and Transource Service Corporation ("Contractor") are collectively referred to herein as the "Parties." All capitalized terms used herein shall have the meaning assigned to them in the Participating Addendum unless otherwise defined herein.

Contract Renewal. The Department hereby executes its renewal option for a three (3) year period pursuant to Section 287.057(13), Florida Statutes. The new contract expiration date is March 31, 2020.

I. Transaction Fees. The State of Florida, through the Department of Management Services, has instituted MyFloridaMarketPlace, a statewide eProcurement system pursuant to section 287.057(22), Florida Statutes. All payments issued by Customers to registered Vendors for purchases of commodities or contractual services will be assessed Transaction Fees as prescribed by rule 60A-1.031, Florida Administrative Code, or as may otherwise be established by law. Vendors must pay the Transaction Fees and agree to automatic deduction of the Transaction Fees, when automatic deduction becomes available. Vendors will submit any monthly reports required pursuant to the rule. All such reports and payments will be subject to audit. Failure to comply with the payment of the Transaction Fees or reporting of transactions will constitute grounds for declaring the Vendor in default and subject the Vendor to exclusion from business with the State of Florida.

II. Public Records. The Participating Addendum is amended to add the following**:**
If, under this Contract, the Contractor is providing services and is acting on behalf of a public agency as provided by section 119.0701(2)(b), F.S., the Contractor shall:
(a) Keep and maintain public records required by the public agency to perform the service.

(b) Upon request from the public agency's custodian of public records, provide the public agency with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119, F.S., or as otherwise provided by law.

(c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the public agency.

(d) Upon completion of the contract, transfer, at no cost, to the public agency all public records in possession of the Contractor or keep and maintain public records required by the public agency to perform the service. If the contractor transfers all public records to the public agency upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon completion of the contract, the contractor

shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the public agency, upon request from the public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CONTRACT MANAGER.

III. Annual Appropriation. The Participating Addendum is amended to add the following: Pursuant to section 287.0582, F.S., if the ACS binds the State or an agency for the purchase of services or tangible personal property for a period in excess of one fiscal year, the State of Florida's performance and obligation to pay under the ACS is contingent upon an annual appropriation by the Legislature.

IV. Cooperation with the Inspector General. Pursuant to subsection 20.055(5), F.S., Contractor, and any subcontractor to the Contractor, understand and will comply with their duty to cooperate with the Inspector General in any investigation, audit, inspection, review, or hearing. Upon request of the Inspector General or any other authorized State official, the Contractor must provide any type of information the Inspector General deems relevant to the Contractor's integrity or responsibility. Such information may include, but will not be limited to, the Contractor's business or financial records, documents, or files of any type or form that refer to or relate to the Contract. The Contractor will retain such records for five years after the expiration of the Contract, or the period required by the General Records Schedules maintained by the Florida Department of State (available at: http://dos.myflorida.com/library-archives/records-management/general-records-schedules/), whichever is longer. The Contractor agrees to reimburse the State of Florida for the reasonable costs of investigation incurred by the Inspector General or other authorized State of Florida official for investigations of the Contractor's compliance with the terms of this or any other agreement between the Contractor and the State of Florida which results in the suspension or debarment of the Contractor. Such costs will include, but will not be limited to salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees.

V. Conflict. To the extent any of the terms of this Amendment conflict with the terms of the Contract, the terms of this Amendment shall control.

VI. Warrant of Authority. Each person signing this Amendment warrants that he or she is duly authorized to do so and to bind the respective party.

VII. Effect. Unless otherwise modified by this Amendment, all terms and conditions contained in the Contract shall continue in full force and effect.

State of Florida,
Department of Management Services

By: _____

Name: Erin Rock

Title: Chief of Staff

Date: 3-23-17

Transource Service Corporation

By: _____

Name: Curtis Wescott

Title: NASPO ValuePoint Contract Manager

Date: 03/15/2017

STATE OF MINNESOTA
Materials Management Division
112 Administration Building
50 Sherburne Avenue
St. Paul, MN 55155
Voice: 651.296.2600
Fax: 651.297.3996

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD
WITH
TRANSOURCE SERVICE CORPORATION
FOR
COMPUTER EQUIPMENT: (Desktops, Laptops, Tablets, Servers, Storage including Related Peripherals & Services)

To: Transource Service Corporation
2405 W. Utopia Road
Phoenix, Arizona 85027

Contract Vendor Administrator:
Curtis Wescott
Email: curtisw@transource.com
Phone: 623.879.8882 ext 24

CONTRACT NO:	MNWNC-130
CONTRACT PERIOD:	April 1, 2015, or upon final executed signatures, whichever is later
Through	March 31, 2017
EXTENSION OPTION:	UP TO 36 MONTHS

You are hereby notified that your response to our solicitation, which opened January 31, 2014, is accepted. The following documents, in order of precedence, are incorporated herein by reference and constitute the entire Contract between you and the State: 1. A Participating Entity's Participating Addendum ("PA") A Participating Entity's Participating Addendum shall not diminish, change, or impact the rights of the Lead State with regard to the Lead State's contractual relationship with the Contract Vendor under the Terms of Minnesota WSCA-NASPO Master Agreement; 2. Minnesota WSCA-NASPO Master Agreement; 3. The Solicitation; and 4. the Contract Vendor's response to the Solicitation. These documents shall be read to be consistent and complementary. Any conflict among these documents shall be resolved by giving priority to these documents in the order listed above.

IN WITNESS WHEREOF, the parties have caused this Agreement to be duly executed intending to be bound thereby.

1. TRANSOURCE SERVICE CORPORATION
The Contractor certifies that the appropriate person(s) have executed this Agreement on behalf of the Contractor as required by applicable articles, bylaws, resolutions, or ordinances.

By: _____ Signature
Curtis Wescott Printed Name
Title: Contract Manager
Date: 2-12-2015

By: _____ Signature
_____ Printed Name
Title: _____
Date: _____

2. MINNESOTA MATERIALS MANAGEMENT DIVISION
In accordance with Minn. Stat. § 16C.03, subd. 3.

By: _____
Title: Master Agreement Administrator
Date: 2/13/15

3. MINNESOTA COMMISSIONER OF ADMINISTRATION
Or delegated representative.

By: _____
Date: Original signed

FEB 26 2015

By Lucas J. Jannett

Admin Minnesota
DEPARTMENT OF ADMINISTRATION

COMPUTER EQUIPMENT
2014-2019

WSCA-NASPO
COOPERATIVE PURCHASING ORGANIZATION

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

TABLE OF CONTENTS

TABLE OF CONTENTS 2
SUMMARY 3
EXHIBIT A - TERMS & CONDITIONS 5
EXHIBIT B - PRICING 23
EXHIBIT B - PRICING SCHEDULE 25
EXHIBIT C - PRODUCT AND SERVICE SCHEDULE (PSS) 26
EXHIBIT D - WEBSITE 27
EXHIBIT E - ACTION REQUEST UPDATE FORM (ARF) 28
EXHIBIT F - REPORTING 30
EXHIBIT G - DEFINITIONS 31

COMPUTER EQUIPMENT
2014-2019

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

SUMMARY

1. **BACKGROUND**. The State of Minnesota, Department of Administration, Materials Management Division publicly posted a Request for Proposal on behalf of the State of Minnesota and WSCA-NASPO Cooperative Procurement Program ("WSCA-NASPO") resulting in a Master Agreement Award. After evaluation by a multi–state sourcing team the solicitation resulted in this Minnesota WSCA-NASPO Master Agreements with qualified manufacturers for **Computer Equipment (Desktops, Laptops, Tablets, Servers, and Storage including related Peripherals & Services).**

   The original solicitation contains the requirements and definitions establishing the following Product Bands allowed on the Master Agreement. The configuration limits and restrictions for this Master Agreement are provided below. Participating Entities may revise these in their Participating Addendum. **Bands awarded are identified below:**

   Band 1: Desktop
   Band 2: Laptop
   Band 3: Tablet
   Band 4: Server
   Band 5: Storage

   The original solicitation included Band 6: Ruggedized. This band has been removed and ruggedized equipment will be allowed in Bands 1-5. The original solicitation and responses may be found on the WSCA-NASPO Website.

2. **EFFECTIVE DATE:** The Master Agreement contract term will begin on April 1, 2015, or upon final executed signatures, whichever is later, through March 31, 2017 with the option to extend up to 36 months, upon agreement by both parties. Contract Sales may not begin until the Website, Product and Service Schedule and third party products have been approved by the Master Agreement Administrator.

3. **PARTICIPATION.** All authorized governmental entities in any State are welcome to use the resulting Master Agreements through WSCA-NASPO with the approval of the State Chief Procurement Official. Contract Vendors are able to sign Participating Addendums (PA) at the option of Participating States. Participating States reserve the right to add State specific terms and conditions and modify the scope of the contract in their Participating Addendum as allowed by the Master Agreement.

4. **CONFIGURATION DOLLAR LIMITS.** The following configuration limits apply to the Master Agreement. Participating States may define their configuration limits in their participating addendum. The Participating State's Chief Procurement Official may increase or decrease the configuration limits, as defined in their Participating Addendum. The Participating State will determine with the Contract Vendor how to approve these modifications to the State's Product and Service Schedule.

   The dollar limits identified below are based on a **SINGLE** computer configuration. This is **NOT** a restriction on the purchase of multiple configurations (e.g. an entity could purchase 10 laptops @ $10,000 for a total purchase price of $100,000).

ITEM	CONFIGURATION*
Server	$500,000
Storage	$500,000
Desktops	$ 10,000
Laptops	$ 10,000
Tablets	$ 5,000
Peripherals	$ 5,000
Services	Addressed by each State in participating addendum

* Configuration is defined as the combination of hardware and software components that make up the total functioning system. Software purchases are considered a part of the configuration limit of the equipment.

5. **RESTRICTIONS.** The following restrictions apply to the Master Agreement. A Participating State may set further restrictions of products in their Participating Addendum. The Participating State will determine with the Contract Vendor how to approve these modifications to the State's Product and Service Schedule.

a. Software

1. Software is restricted to operating systems and commercial off-the-shelf (COTS) software and is subject to equipment configuration limits.
2. Software is an option which must be related to the procurement of equipment.
3. Software must be pre-loaded or provided as an electronic link with the initial purchase of equipment.
4. Software such as middleware which is not always installed on the equipment, but is related to storage and server equipment (Band 4&5) purchased, is allowed and may be procured after the initial purchase of equipment.

b. Services

1. Services must be related to the procurement of equipment.
2. Service limits will be addressed by each State.
3. Wireless phone and internet service is not allowed.
4. Cloud Services including acquisitions structured as managed on-site services are not allowed.
5. Managed Print Services are not allowed.

c. Third Party Products.

1. Contract Vendors can only offer Third Party Products in the bands they have been awarded.
2. Contract Vendor cannot offer products manufactured by another Contract Vendor holding a Minnesota WSCA-NASPO Master Agreement unless approved by the Lead State.

d. Additional Product/Services

1. Hardware and software required to solely support wide area network (WAN) operation and management are not allowed.
2. Lease/Rentals of equipment may be allowed and will be addressed by each State.
3. Cellular Phone Equipment is not allowed.
4. EPEAT Bronze requirement may be waived, on a State case by case basis, if approved by the State's Chief Procurement Officer.

6. **PARTNER UTILIZATION:** Each state represented by WSCA-NASPO that chooses to participate in this Master Agreement independently has the option of utilizing partners. Only partners approved by the Participating State may be deployed. The participating State will define the process to add and remove partners in their participating addendum.

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

EXHIBIT A - TERMS & CONDITIONS

MASTER AGREEMENT TERMS AND CONDITIONS

A. GENERAL TERMS, CONDITIONS & INSTRUCTIONS

1. **ACCEPTANCE OF TERMS AND CONDITIONS**. The contents of the RFP and the response of the successful responder will become Master Agreement contractual obligations, along with the final Master Agreement, if acquisition action ensues. A statement of acceptance of the proposed Contract Terms and Conditions, unless taken exception to, as specified in the RFP must be included in the response. Any suggestions for alternate language shall be presented. The Lead State is under no obligation to accept wording changes submitted by the responder. The Lead State is solely responsible for rendering decisions in matters of interpretation on all terms and conditions. Any response which fails to comply with this requirement may be disqualified as nonresponsive.

   All general proposal terms, specifications and WSCA-NASPO Terms & Conditions form a part of this RFP and will apply to any Master Agreements entered into as a result thereof.

2. **CONFLICT OF TERMS/ORDER OF PRECEDENCE**:
   a. A Participating Entity's Participating Addendum ("PA");
   b. Minnesota WSCA-NASPO Master Agreement
   c. The Solicitation including all Addendums; and
   d. Contract Vendor's response to the Solicitation

   These documents shall be read to be consistent and complementary. Any conflict among these documents shall be resolved by giving priority to these documents in the order listed above. Contract Vendor terms and conditions that apply to this Master Agreement are only those that are expressly accepted by the Lead State and must be in writing and attached to the Master Agreement as an Exhibit or Attachment. No other terms and conditions shall apply, including terms and conditions listed in the Contract Vendor's response to the Solicitation, or terms listed or referenced on the Contract Vendor's website, in the Contract Vendor quotation/sales order or in similar documents subsequently provided by the Contract Vendor. The solicitation language prevails unless a mutually agreed exception has been negotiated.

3. **ADDENDA TO THE RFP.** Any addendum issued will become a part of the RFP. The Lead State may modify or clarify the RFP by issuing one or more addenda to all parties who have received the RFP. Each responder must follow the directions on the addendum. Addenda will be numbered consecutively in the order they are issued.

4. **AWARD.** The award of this solicitation will be based upon the total accumulated points as established in the RFP, for separate items, by grouping items, or by total lot, and where at its sole discretion the Lead State believes it will receive the best value. The Lead State reserves the right to award this solicitation to a single responder, or to multiple responders, whichever is in the best interest of the Lead State. It is the State's intent to award to multiple responders. The Lead State reserves the right to accept all or part of an offer, to reject all offers, to cancel the solicitation, or to re-issue the solicitation, whichever is in the best interest of the Lead State.

   The Sourcing Team will make a recommendation on the award of this RFP. The commissioner of Administration or designee may accept or reject the recommendation of the Sourcing Team. The final award decision will be made by the Commissioner of Administration and the WSCA-NASPO Management Board.

5. **CLARIFICATION.** If a responder discovers any significant ambiguity, error, conflict, discrepancy, omission, or other deficiency in the RFP, the responder shall immediately notify the Acquisition Management Specialist in writing, as

specified in the introduction, of such error and request modification or clarification of the document. This notification is due no later than seven calendar days prior to the proposal due date and time.

Responders are cautioned that any activity or communication with a State employee or officer, or a member of the Evaluation Team, regarding this Solicitation's contents or process, is strictly prohibited and may, as a result, have its response rejected. Any communication regarding this Solicitation, its content or process, must be directed to the Acquisition Management Specialist listed in the Solicitation documents.

6. **COMPLETION OF RESPONSES.** A response may be rejected if it is conditional or incomplete. Responses that contain conflicting, false, or misleading statements or that provide references that contradict or do not support an attribute or condition stated by the responder, may be rejected.

7. **MASTER AGREEMENT ADMINISTRATOR.** The Master Agreement Administrator designated by WSCA-NASPO and the State of Minnesota, Department of Administration is: Susan Kahle. Direct all correspondence and inquiries, legal questions, general issues, or technical issues regarding this RFP to:

Susan Kahle
Acquisition Management Specialist
Department of Administration
Materials Management Division
50 Sherburne Avenue
112 Administration Building
St. Paul, MN 55155

Fax: 651.297.3996
E-mail: susan.kahle@state.mn.us

8. **DISPOSITION OF DATA SUBMITTED BY CONTRACT VENDOR .** All materials submitted in response to this RFP will become property of the Lead State and will become public record after the evaluation process is completed. The evaluation process is complete when negotiations with the selected vendors are final.

By executing this Contract, the Contract Vendor certifies and agrees that all information provided in the Contract and in response to the solicitation will be made public in accordance with the solicitation and that no information has been designated Trade Secret pursuant to the Minnesota Government Data Practices Act.

If the Contract Vendor submits information after execution of this Contract that it believes to be trade secret materials, as defined by the Minnesota Government Data Practices Act, Minn. Stat. § 13.37, the Contract Vendor must:

a. clearly mark all trade secret materials at the time the information is submitted;
b. include a statement with regard to the information justifying the trade secret designation for each item; and,
c. defend any action seeking release of the materials it believes to be trade secret, and indemnify and hold harmless the Lead State, its agents and employees, from any judgments awarded against the Lead State in favor of the party requesting the materials, and any and all costs connected with that defense. This indemnification survives the Lead State's award of a Master Agreement. In submitting a response to the RFP, the responder agrees that this indemnification survives as long as the trade secret materials are in possession of the Lead State. The Lead State will not consider the prices submitted by the responder to be trade secret materials.

9. **DISPUTE RESOLUTION PROCEDURES.** Any issue a responder has with the RFP document, which includes, but is not limited to, the terms, conditions, and specifications, must be submitted in writing to and received by the Master Agreement Administrator prior to the opening due date and time. Any issue a responder has with the Master Agreement award must be submitted in writing to the Master Agreement Administrator within five working days from the time the notice of the intent to award is issued. This notice may be made by any of the following methods: notification by letter, fax or email, or posted on the Materials Management website, www.mmd.admin.state.mn.us. The Lead State will respond to any protest received that follows the above procedure. For those protests that meet the above submission requirements, the appeal process is, in sequence: The responsible Master Agreement Administrator, the Materials Management Division (MMD) Assistant Director, and the MMD Director.

10. **ELECTRONIC FILES TO DOWNLOAD, COMPLETE, AND RETURN.** Responders must download a Word/Excel document.

11. **ENTIRE AGREEMENT.** A written Master Agreement (including the contents of this RFP and selected portions of Contract Vendor's response incorporated therein by reference) and any written addenda thereto constitute the entire agreement of the parties to the Master Agreement.

12. **IRREVOCABLE OFFER.** In accordance with this Request for Proposal, and subject to all conditions thereof, the undersigned agrees that its response to this RFP, or any part thereof, is an irrevocable offer for 180 days following the submission deadline date unless stated otherwise in the RFP. It is understood and agreed that the response, or any part thereof, when accepted by the appropriate department and State officials in writing, may become part of a legal and binding Master Agreement between the undersigned vendor and the State of Minnesota.

13. **MATERIAL DEVIATION.** A responder shall be presumed to be in agreement with these terms and conditions unless it takes specific exception to one or more of the conditions. Submission by the responder of its proposed language shall not be viewed as an exception unless the responder specifically states in the response that its proposed changes are intended to supersede the terms and conditions.

    RESPONDERS ARE CAUTIONED THAT BY TAKING ANY EXCEPTION THEY MAY BE MATERIALLY DEVIATING FROM THE REQUEST FOR PROPOSAL. IF A RESPONDER MATERIALLY DEVIATES FROM THE GENERAL TERMS, CONDITIONS AND INSTRUCTIONS OR THE WSCA-NASPO TERMS AND CONDITIONS AND/OR SPECIFICATIONS, ITS RESPONSE MAY BE REJECTED.

    A material deviation is an exception to the Request for Proposal general or WSCA-NASPO terms and conditions and/or specifications that:

a. gives the responder taking the exception a competitive advantage over other vendors; or,
b. gives the Lead State something significantly different from that which the Lead State requested.

14. **NONRESPONSIVE RESPONSES.** Responses that do not comply with the provisions in the RFP may be considered nonresponsive and may be rejected.

15. **NOTICES.** If one party is required to give notice to the other under the Master Agreement, such notice shall be in writing and shall be effective upon receipt. Delivery may be by certified United States mail or by hand, in which case a signed receipt shall be obtained. A facsimile transmission shall constitute sufficient notice, provided the receipt of the transmission is confirmed by the receiving party. Either party must notify the other of a change in address for notification purposes. All notices to the Lead State shall be addressed as follows:

STATE OF MINNESOTA:
MN WSCA-NASPO COMPUTER EQUIPMENT CONTRACT ADMINISTRATOR
112 Administration Bldg.
50 Sherburne Avenue
St. Paul, MN 55155
651-296-2600

MASTER AGREEMENT TERMS AND CONDITIONS

B. WSCA-NASPO TERMS AND CONDITIONS

1. **ADMINISTRATIVE FEES**. The Contract Vendor shall pay a WSCA-NASPO Administrative Fee of one-tenth of one percent (0.1% or 0.001) in accordance with the Terms and Conditions of the Master Agreement no later than 60 days following the end of each calendar quarter. The WSCA-NASPO Administrative Fee shall be submitted quarterly and is based on sales of products and services (less any charges for taxes or shipping). The WSCA-NASPO Administrative Fee is not negotiable. This fee is to be included as part of the pricing submitted with proposal.

   Additionally, some states may require an additional fee be paid directly to the state on purchases made by Purchasing Entities within that state. For all such requests, the fee level, payment method and schedule for such reports and payments will be incorporated into the Participating Addendum that is made a part of the Master Agreement. The Contract Vendor may adjust the Master Agreement pricing accordingly for purchases made by Purchasing Entities within the jurisdiction of the state. All such agreements may not affect the WSCA-NASPO Administrative Fee or the prices paid by the Purchasing Entities outside the jurisdiction of the state requesting the additional fee.

2. **AGREEMENT ORDER OF PRECEDENCE**. The Master Agreement shall consist of the following documents:
   1. A Participating Entity's Participating Addendum ("PA");
   2. Minnesota WSCA-NASPO Master Agreement
   3. The Solicitation including all addendums; and
   4. Contract Vendor's response to the Solicitation

   These documents shall be read to be consistent and complementary. Any conflict among these documents shall be resolved by giving priority to these documents in the order listed above. Contract Vendor terms and conditions that apply to this Master Agreement are only those that are expressly accepted by the Lead State and must be in writing and attached to this Master Agreement as an Exhibit or Attachment. No other terms and conditions shall apply, including terms and conditions listed in the Contract Vendor's response to the Solicitation, or terms listed or referenced on the Contract Vendor's website, in the Contract Vendor quotation/sales order or in similar documents subsequently provided by the Contract Vendor. The solicitation language prevails unless a mutually agreed exception has been negotiated.

3. **AMENDMENTS**. The terms of this Master Agreement shall not be waived, altered, modified, supplemented or amended in any manner whatsoever without prior written approval of the WSCA-NASPO Master Agreement Administrator.

4. **ASSIGNMENT OF ANTITRUST RIGHTS**. Contract Vendor irrevocably assigns to a Participating Entity any claim for relief or cause of action which the Contract Vendor now has or which may accrue to the Contract Vendor in the future by reason of any violation of state or federal antitrust laws (15 U.S.C. § 1-15 or a Participating Entity's state antitrust provisions), as now in effect and as may be amended from time to time, in connection with any goods or services provided to the Contract Vendor for the purpose of carrying out the Contract Vendor's obligations under this Master Agreement or Participating Addendum, including, at a Participating Entity's option, the right to control any such litigation on such claim for relief or cause of action.

5. **ASSIGNMENT/SUBCONTRACT**. Contract Vendor shall not assign, sell, transfer, subcontract or sublet rights, or delegate responsibilities under this Master Agreement, in whole or in part, without the prior written approval of the WSCA-NASPO Master Agreement Administrator.

6. **CANCELLATION**. Unless otherwise stated in the terms and conditions, any Master Agreement may be canceled by either party upon 60 days' notice, in writing, prior to the effective date of the cancellation. Further, any Participating Entity may cancel its participation upon 30 days written notice, unless otherwise limited or stated in the special terms and conditions of this solicitation or in the applicable Participating Addendum. Cancellation may be in whole or in part. Any cancellation under this provision shall not affect the rights and obligations attending orders outstanding at the time of cancellation, including any right of a Participating Entity to indemnification by the Contract Vendor, rights of payment for goods/services delivered and accepted, and rights attending any warranty or default in performance in association with any order. Cancellation of the Master Agreement due to Contract Vendor default may be immediate if defaults cannot be reasonably cured as allowed per Default and Remedies term.

7. **CONFIDENTIALITY, NON-DISCLOSURE AND INJUNCTIVE RELIEF.**
   7.1 Confidentiality. Contract Vendor acknowledges that it and its employees or agents may, in the course of providing the Product under this Master Agreement, be exposed to or acquire information that is confidential to Participating Entity or Participating Entity's clients. Any and all information of any form that is marked as confidential

or would by its nature be deemed confidential obtained by Contract Vendor or its employees or agents in the performance of this Master Agreement, including, but not necessarily limited to (a) any Participating Entity records, (b) personnel records, and (c) information concerning individuals, is confidential information of Participating Entity ("Confidential Information"). Any reports or other documents or items (including software) that result from the use of the Confidential Information by Contract Vendor shall be treated in the same manner as the Confidential Information. Confidential Information does not include information that (a) is or becomes (other than by disclosure by Contract Vendor) publicly known; (b) is furnished by Participating Entity to others without restrictions similar to those imposed by this Master Agreement; (c) is rightfully in Contract Vendor's possession without the obligation of nondisclosure prior to the time of its disclosure under this Master Agreement; (d) is obtained from a source other than Participating Entity without the obligation of confidentiality, (e) is disclosed with the written consent of Participating Entity or; (f) is independently developed by employees, agents or subcontractor of Contract Vendor who can be shown to have had no access to the Confidential Information

7.2 Non-Disclosure. Contract Vendor shall hold Confidential Information in confidence, using at least the industry standard of confidentiality, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purposes whatsoever other than the performance of this Master Agreement to Participating Entity hereunder, and to advise each of its employees and agents of their obligations to keep Confidential Information confidential. Contract Vendor shall use commercially reasonable efforts to assist Participating Entity in identifying and preventing any unauthorized use or disclosure of any Confidential Information. Without limiting the generality of the foregoing, Contract Vendor shall advise Participating Entity immediately if Contract Vendor learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Master Agreement and Contract Vendor shall at its expense cooperate with Participating Entity in seeking injunctive or other equitable relief in the name of Participating Entity or Contract Vendor against any such person. Except as directed by Participating Entity, Contract Vendor will not at any time during or after the term of this Master Agreement disclose, directly or indirectly, any Confidential Information to any person, except in accordance with this Master Agreement, and that upon termination of this Master Agreement or at Participating Entity's request, Contract Vendor shall turn over to Participating Entity all documents, papers, and other matter in Contract Vendor's possession that embody Confidential Information. Notwithstanding the foregoing, Contract Vendor may keep one copy of such Confidential Information necessary for quality assurance, audits and evidence of the performance of this Master Agreement.

7.3 Injunctive Relief. Contract Vendor acknowledges that breach of this Section, including disclosure of any Confidential Information, will cause irreparable injury to Participating Entity that is inadequately compensable in damages. Accordingly, Participating Entity may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies that may be available. Contract Vendor acknowledges and agrees that the covenants contained herein are necessary for the protection of the legitimate business interests of Participating Entity and are reasonable in scope and content.

7.4 Participating Entity is agreeing to the above language to the extent is not in conflict with Participating Entities public disclosure laws.

8. **DEBARMENT**. The Contract Vendor certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntary excluded from participation in this transaction (Master Agreement) by any governmental department or agency. If the Contract Vendor cannot certify this statement, attach a written explanation for review by WSCA-NASPO.

In any order against this Master Agreement for a requirement established by a Purchasing Entity that discloses the use of federal funding, to the extent another form of certification is not required by a Participating Addendum or the order of the Purchasing Entity, the Contractor's quote represents a recertification consistent with the terms of paragraph 8, Section 2D, Minnesota Terms and Conditions

9. **DEFAULTS & REMEDIES.**
   a. The occurrence of any of the following events shall be an event of default under this Master Agreement:
      i. Nonperformance of contractual requirements; or
      ii. A material breach of any term or condition of this Master Agreement; or
      iii. Any representation or warranty by Contract Vendor in response to the solicitation or in this Master Agreement proves to be untrue or materially misleading; or
      iv. Institution of proceedings under any bankruptcy, insolvency, reorganization or similar law, by or against Contract Vendor, or the appointment of a receiver or similar officer for Contract Vendor or any of its property, which is not vacated or fully stayed within thirty (30) calendar days after the institution or occurrence thereof; or
      v. Any default specified in another section of this Master Agreement.
   b. Upon the occurrence of an event of default, Lead State shall issue a written notice of default, identifying the nature of the default, and providing a period of 30 calendar days in which Contract Vendor shall have an

opportunity to cure the default. The Lead State shall not be required to provide advance written notice or a cure period and may immediately terminate this Master Agreement in whole or in part if the Lead State, in its sole discretion, determines that it is reasonably necessary to preserve public safety or prevent immediate public crisis. Time allowed for cure shall not diminish or eliminate Contract Vendor's liability for damages, including liquidated damages to the extent provided for under this Master Agreement.

c. If Contract Vendor is afforded an opportunity to cure and fails to cure the default within the period specified in the written notice of default, Contract Vendor shall be in breach of its obligations under this Master Agreement and Lead State shall have the right to exercise any or all of the following remedies:
   i. Exercise any remedy provided by law; and
   ii. Terminate this Master Agreement and any related Master Agreements or portions thereof; and
   iii. Impose liquidated damages as provided in this Master Agreement; and
   iv. Suspend Contract Vendor from receiving future bid solicitations; and
   v. Suspend Contract Vendor's performance; and
   vi. Withhold payment until the default is remedied.

d. In the event of a default under a Participating Addendum, a Participating Entity shall provide a written notice of default as described in this section and have all of the rights and remedies under this paragraph regarding its participation in the Master Agreement, in addition to those set forth in its Participating Addendum. Unless otherwise specified in a Purchase Order, a Purchasing Entity shall provide written notice of default as described in this section and have all of the rights and remedies under this paragraph and any applicable Participating Addendum with respect to an Order placed by the Purchasing Entity. Nothing in these Master Agreement Terms and Conditions shall be construed to limit the rights and remedies available to a Purchasing Entity under the applicable commercial code.

10. **DELIVERY.** Unless otherwise indicated in the Master Agreement, the prices are the delivered price to any Purchasing Entity. All deliveries shall be F.O.B. destination with all transportation and handling charges paid by the Contract Vendor. Additional delivery charges will not be allowed for back orders.

11. **FORCE MAJEURE.** Neither party to this Master Agreement shall be held responsible for delay or default caused by fire, riot, acts of God and/or war which is beyond that party's reasonable control. The WSCA-NASPO Master Agreement Administrator may terminate this Master Agreement after determining such delay or default will reasonably prevent successful performance of the Master Agreement.

12. **GOVERNING LAW.** This procurement and the resulting agreement shall be governed by and construed in accordance with the laws of the Lead State sponsoring and administering the procurement. The construction and effect of any Participating Addendum or order against the Master Agreements shall be governed by and construed in accordance with the laws of the Participating Entity's State. Venue for any claim, dispute or action concerning an order placed against the Master Agreements or the effect of a Participating Addendum shall be in the Purchasing Entity's State.

13. **INDEMNIFICATION. DELETED SEE SECTION 2C17.**

14. **INDEMNIFICATION – INTELLECTUAL PROPERTY. DELETED SEE SECTION 2C17.**

15. **INDEPENDENT CONTRACT VENDOR.** The Contract Vendor shall be an independent Contract Vendor, and as such shall have no authorization, express or implied to bind WSCA-NASPO or the respective states to any agreements, settlements, liability or understanding whatsoever, and agrees not to perform any acts as agent for WSCA-NASPO or the states, except as expressly set forth herein.

16. **INDIVIDUAL CUSTOMER.** Except to the extent modified by a Participating Addendum, each Participating Entity shall follow the terms and conditions of the Master Agreement and applicable Participating Addendum and will have the same rights and responsibilities for their purchases as the Lead State has in the Master Agreement, including but not limited to, any indemnity or to recover any costs allowed in the Master Agreement and applicable Participating Addendum for their purchases. Each Purchasing Entity will be responsible for its own charges, fees, and liabilities. The Contract Vendor will apply the charges and invoice each Purchasing Entity individually.

17. **INSURANCE.** Except to the extent modified by a Participating Addendum, Contract Vendor shall, during the term of this Master Agreement, maintain in full force and effect, the insurance described in this section. Contract Vendor shall acquire such insurance from an insurance carrier or carriers licensed to conduct business in the Participating Entity's state and having a rating of A-, Class VII or better, in the most recently published edition of Best's Reports. Failure to buy and maintain the required insurance may result in this Master Agreement's termination or at a Participating Entity's option, result in termination of its Participating Addendum.

Coverage shall be written on an occurrence basis. The minimum acceptable limits shall be as indicated below, with no deductible for each of the following categories:

a. Commercial General Liability covering the risks of bodily injury (including death), property damage and personal injury, including coverage for contractual liability, with a limit of not less than $1 million per occurrence/$2 million general aggregate;
b. Contract Vendor must comply with any applicable State Workers Compensation or Employers Liability Insurance requirements.

Contract Vendor shall pay premiums on all insurance policies. Such policies shall also reference this Master Agreement and shall have a condition that they not be revoked by the insurer until thirty (30) calendar days after notice of intended revocation thereof shall have been given to Participating Entity by the Contract Vendor.

Prior to commencement of the work, Contract Vendor shall provide to the Participating Entity a written endorsement to the Contract Vendor's general liability insurance policy that (i) names the Participating Entity as an additional insured, (ii) provides that no material alteration, cancellation, non-renewal, or expiration of the coverage contained in such policy shall have effect unless the named Participating Entity has been given at least thirty (30) days prior written notice, and (iii) provides that the Contract Vendor's liability insurance policy shall be primary, with any liability insurance of the Participating Entity as secondary and noncontributory.

Contract Vendor shall furnish to Participating Entity copies of certificates of all required insurance within thirty (30) calendar days of the Participating Addendum's effective date and prior to performing any work. Copies of renewal certificates of all required insurance shall be furnished within thirty (30) days after renewal date. These certificates of insurance must expressly indicate compliance with each and every insurance requirement specified in this section. Failure to provide evidence of coverage may, at the Lead State Master Agreement Administrator's sole option, result in this Master Agreement's termination.

Coverage and limits shall not limit Contract Vendor's liability and obligations under this Master Agreement.

18. **LAWS AND REGULATIONS.** Any and all supplies, services and equipment offered and furnished shall comply fully with all applicable Federal and State laws and regulations.

19. **LICENSE OF PRE-EXISTING INTELLECTUAL PROPERTY. DELETED – SEE SECTION 2B30 FOR REVISED TERM ADDRESSING TITLE OF PRODUCT.**

20. **NO WAIVER OF SOVEREIGN IMMUNITY.** The Lead State, Participating Entity or Purchasing Entity to the extent it applies does not waive its sovereign immunity by entering into this Contract and fully retains all immunities and defenses provided by law with regard to any action based on this Contract.

    If a claim must be brought in a federal forum, then it must be brought and adjudicated solely and exclusively within the United States District Court of the Participating Entity's State.

21. **ORDER NUMBERS.** Contract order and purchase order numbers shall be clearly shown on all acknowledgments, shipping labels (if possible), packing slips, invoices, and on all correspondence.

22. **PARTICIPANTS.** WSCA-NASPO Cooperative Purchasing Organization LLC is not a party to the Master Agreement. It is a nonprofit cooperative purchasing organization assisting states in administering the WSCA/NASPO cooperative purchasing program for state government departments, institutions, agencies and political subdivisions (e.g., colleges, school districts, counties, cities, etc.,) for all 50 states and the District of Columbia. Obligations under this Master Agreement are limited to those Participating States who have signed a Participating Addendum where contemplated by the solicitation. Financial obligations of Participating States are limited to the orders placed by the departments or other state agencies and institutions having available funds. Participating States incur no financial obligations on behalf of political subdivisions. Unless otherwise specified in the solicitation, the resulting award will be permissive.

23. **PARTICIPATION OF ENTITIES.** Use of specific WSCA-NASPO cooperative Master Agreements by state agencies, political subdivisions and other entities (including cooperatives) authorized by individual state's statutes to use state contracts are subject to the approval of the respective State Chief Procurement Official. Issues of interpretation and eligibility for participation are solely within the authority of the respective State Chief Procurement Official.

24. **PAYMENT.** Payment for completion of an order under this Master Agreement is normally made within 30 days following the date the entire order is delivered or the date a correct invoice is received, whichever is later. After

45 days the Contract Vendor may assess overdue account charges up to a maximum rate of one percent per month on the outstanding balance. Payments will be remitted by mail. Payments may be made via a State or political subdivision "Purchasing Card" with no additional charge.

25. **PUBLIC INFORMATION.** The Master Agreement and all related documents are subject to disclosure pursuant to the Participating Entity's public information laws.

26. **RECORDS ADMINISTRATION AND AUDIT.** The disclosure of records in Participating States relating to Participating addenda and orders placed against the Master Agreement shall be governed by the laws of the Participating State and entity who placed the order.

The Contractor shall maintain books, records, documents, and other evidence pertaining to this Master Agreement and orders placed by Purchasing Entities under it to the extent and in such detail as shall adequately reflect performance and administration of payments and fees. Contractor shall permit the Lead State, a Participating Entity, a Purchasing Entity, the federal government (including its grant awarding entities and the U.S. Comptroller General), and any other duly authorized agent of a governmental agency, to audit, inspect, examine, copy and/or transcribe Contractor's books, documents, papers and records directly pertinent to this Master Agreement or orders placed by a Purchasing Entity under it for the purpose of making audits, examinations, excerpts, and transcriptions. This right shall survive for a period of five (5) years following termination of this Agreement or final payment for any order placed by a Purchasing Entity against this Agreement, whichever is later, to assure compliance with the terms hereof or to evaluate performance hereunder.

Without limiting any other remedy available to any governmental entity, the Contractor shall reimburse the applicable Lead State, Participating Entity, or Purchasing Entity for an overpayments inconsistent with the terms of the Master Agreement or orders or underpayment of fees found as a result of the examination of the Contractor's records.

The rights and obligations herein right exist in addition to any quality assurance obligation in the Master Agreement requiring the Contractor to self-audit contract obligations and that permits the Lead State Master Agreement Administrator to review compliance with those obligations.

Records will be retained longer if required by Participating Entity's law.

27. **REPORTS - SUMMARY AND DETAILED USAGE.** In addition to other reports that may be required by this solicitation, the Contract Vendor shall provide the following WSCA-NASPO reports.

a. Summary Sales Data. The Contractor shall submit quarterly sales reports directly to WSCA-NASPO using the WSCA-NASPO Quarterly Sales/Administrative Fee Reporting Tool found at http://www.naspo.org/WNCPO/Calculator.aspx. Any/all sales made under the contract shall be reported as cumulative totals by state. Even if Contractor experiences zero sales during a calendar quarter, a report is still required. Reports shall be due no later than the last day of the month following the end of the calendar quarter (as specified in the reporting tool).

b. Detailed Sales Data. Contract Vendor shall also report detailed sales data by: state; entity/customer type, e.g., local government, higher education, K12, non-profit; Purchasing Entity name; Purchasing Entity bill-to and ship-to locations; Purchasing Entity and Contract Vendor Purchase Order identifier/number(s); Purchase Order Type (e.g., sales order, credit, return, upgrade, determined by industry practices); Purchase Order date; Ship Date; and line item description, including product number if used. The report shall be submitted in any form required by the solicitation. Reports are due on a quarterly basis and must be received by the Lead State no later than the last day of the month following the end of the reporting period. Reports shall be delivered to the Lead State and to the WSCA-NASPO Cooperative Development Team electronically through email; CD-Rom, jump drive or other electronic matter as determined by the Lead State.

Detailed sales data reports shall include sales information for all sales under Participating Addenda executed under this Master Agreement. The format for the detailed sales data report is in Section 6, Attachment H.

c. Reportable sales for the summary sales data report and detailed sales data report includes sales to employees for personal use where authorized by the Participating Addendum. Specific data in relation to sales to employees for personal use to be defined in the final contract award to ensure only public information is reported.

d. Timely submission of these reports is a material requirement of the Master Agreement. The recipient of the reports shall have exclusive ownership of the media containing the reports. The Lead State and WSCA-NASPO shall have a perpetual, irrevocable, non-exclusive, royalty free, transferable right to display, modify, copy, and otherwise use reports, data and information provided under this section.

28. ACCEPTANCE AND ACCEPTANCE TESTING.

a. Acceptance. Purchasing Entity (the entity authorized under the terms of any Participating Addendum to place orders under this Master Agreement) shall determine whether all Products and Services delivered meet the Contractor's published specifications (a.k.a. "Specifications"). No payment shall be made for any Products or Services until the Purchasing Entity has accepted the Products or Services. The Purchasing Entity will make every effort to notify the Contractor within thirty (30) calendar days following delivery of non-acceptance of a Product or completion of Service. In the event that the Contractor has not been notified within 30 calendar days from delivery of Product or completion of Service, the Product and Services will be deemed accepted on the 31st day after delivery of Product or completion of Services. This clause shall not be applicable, if acceptance testing and corresponding terms have been mutually agreed to by both parties in writing.

b. Acceptance Testing. The Purchasing Entity (the entity authorized under the terms of any Participating Addendum to place orders under this Master Agreement) and the Contract Vendor shall determine if Acceptance Testing is applicable and/or required for the purchase. The terms in regards to acceptance testing will be negotiated, in writing, as mutually agreed. If Acceptance Testing is NOT applicable, the terms regarding Acceptance in the Contract shall prevail.

29. SYSTEM FAILURE OR DAMAGE. In the event of system failure or damage caused by the Contract Vendor or its Product, the Contract Vendor agrees to use its commercially reasonable efforts to restore or assist in restoring the system to operational capacity. The Contract Vendor shall be responsible under this provision to the extent a 'system' is defined at the time of the Order; otherwise the rights of the Purchasing Entity shall be governed by the Warranty.

30. TITLE OF PRODUCT.

OWNERSHIP

a. Ownership of Documents/Copyright. Any reports, studies, photographs, negatives, databases, computer programs, or other documents, whether in tangible or electronic forms, prepared by the Contract Vendor in the performance of its obligations under the Master Agreement and paid for by the Purchasing Entity shall be the exclusive property of the Purchasing Entity and all such material shall be remitted to the Purchasing Entity by the Contract Vendor upon completion, termination or cancellation of the Master Agreement. The Contract Vendor shall not use, willingly allow or cause to allow such material to be used for any purpose other than performance of the Contract Vendor's obligations under this Master Agreement without the prior written consent of the Purchasing Entity.

b. Rights, Title and Interest. All rights, title, and interest in all of the intellectual property rights, including copyrights, patents, trade secrets, trade marks, and service marks in the said documents that the Contract Vendor conceives or originates, either individually or jointly with others, which arises out of the performance of the Master Agreement, will be the property of the Purchasing Entity and are, by the Master Agreement, assigned to the Purchasing Entity along with ownership of any and all copyrights in the copyrightable material. The Contract Vendor also agrees, upon the request of the Purchasing Entity, to execute all papers and perform all other acts necessary to assist the Purchasing Entity to obtain and register copyrights on such materials. Where applicable, works of authorship created by the Contract Vendor for the Purchasing Entity in performance of the Master Agreement shall be considered "works for hire" as defined in the U.S. Copyright Act.

c. Notwithstanding the above, the Purchasing Entity will not own any of the Contract Vendor's pre-existing intellectual property that was created prior to the Master Agreement and which the Purchasing Entity did not pay the Contract Vendor to create. The Contract Vendor grants the Purchasing Entity a perpetual, irrevocable, non-exclusive, royalty free license for Contract Vendor's pre-existing intellectual property that is contained in the products, materials, equipment or services that are purchased through this Master Agreement.

31. WAIVER OF BREACH. Failure of Lead State Master Agreement Administrator, Participating Entity, or Purchasing Entity to declare a default or enforce any rights and remedies shall not operate as a waiver under this Master Agreement or Participating Addendum. Any waiver by the Lead State or Participating Entity must be in writing. Waiver by the Lead State Master Agreement Administrator, Participating Entity, or Purchasing Entity of any default, right or remedy under this Master Agreement or Participating Addendum, or breach of any terms or requirements shall

not be construed or operate as a waiver of any subsequent default or breach of such term or requirement, or of any other term or requirement under this Master Agreement, a Participating Addendum, or order.

32. **WARRANTY.** The warranty provided must be the manufacturers written warranty tied to the product at the time of purchase and must include the following:: (a) the Product performs according to the specifications (b) the Product is suitable for the ordinary purposes for which such Product is used, (c) the Product is designed and manufactured in a commercially reasonable manner, and (d) the Product is free of defects.

For third party products sold by the Contract Vendor, the Contract Vendor will assign the manufacturer or publisher's warranty and maintenance. The Contract Vendor will provide warranty and maintenance call numbers and assist the customer in engaging the manufacturer on warranty and maintenance issues.

Upon breach of the warranty, the Contract Vendor will repair or replace (at no charge to the Purchasing Entity) the Product whose nonconformance is discovered and made known to the Contract Vendor. If the repaired and/or replaced Product proves to be inadequate, or fails of its essential purpose, the Contract Vendor will refund the full amount of any payments that have been made. The rights and remedies of the parties under this warranty are in addition to any other rights and remedies of the parties provided by law or so ordered by the court.

MASTER AGREEMENT TERMS AND CONDITIONS

C. MINNESOTA TERMS AND CONDITIONS

1. **ACCEPTANCE OF PROPOSAL CONTENT.** The contents of this RFP and selected portions of response of the successful Proposer will become contractual obligations, along with the final Master Agreement, if acquisition action ensues. The Lead State is solely responsible for rendering the decision in matters of interpretation of all terms and conditions.

2. **ACCESSIBILITY STANDARDS.** The State of Minnesota has developed IT Accessibility Standards effective September 1, 2010, which entails, in part, the Web Content Accessibility Guidelines (WCAG) 2.0 (Level AA) and Section 508 Subparts A-D which can be viewed at http://www.mmd.admin.state.mn.us/pdf/accessibility_standard.pdf

   Responders must complete the WCAG VPAT form included in the FORMS section of the RFP. The completed VPAT form will be scored based on its compliance with the Accessibility Standards. The requested WCAG VPAT applies to the responder's website to be offered under the Contract. For products offered, VPATS are only to be provided upon request by the participating entity.

   Upon request by the participating entity, the responder must make best efforts to provide Voluntary Product Accessibility Templates (VPATS) for all products offered in its response. Click here for link to VPATS for both Section 508 VPAT and WCAG 2.0 VPAT http://mn.gov/oet/policies-and-standards/accessibility/#.

3. **ADMINISTRATIVE PERSONNEL CHANGES.** The Contract Vendor must notify the Contract Administrator of changes in the Contract Vendor's key administrative personnel, in advance and in writing. Any employee of the Contract Vendor who, in the opinion of the State of Minnesota, is unacceptable, shall be removed from the project upon written notice to the Contract Vendor. In the event that an employee is removed pursuant to a written request from the Acquisition Management Specialist, the Contract Vendor shall have 10 working days in which to fill the vacancy with an acceptable employee.

4. **AMENDMENT(S).** Master Agreement amendments shall be negotiated by the Lead State with the Contract Vendor whenever necessary to address changes in the terms and conditions, costs, timetable, or increased or decreased scope of work. An approved Master Agreement amendment means one approved by the authorized signatories of the Contract Vendor and the Lead State as required by law.

5. **AMERICANS WITH DISABILITIES ACT (ADA).** DELETED.

6. **AWARD OF RELATED CONTRACTS.** In the event the Lead State undertakes or awards supplemental Contracts for work related to the Master Agreement or any portion thereof, the Contract Vendor shall cooperate fully with all other Contract Vendors and the State in all such cases. All Master Agreements between subcontractors and the Contract Vendor shall include a provision requiring compliance with this section.

7. **AWARD OF SUCCESSOR CONTRACTS.** In the event the State undertakes or awards a successor for work related to the Contract or any portion thereof, the current Contract Vendor shall cooperate fully during the transition with all other Contract Vendors and the State in all such cases. All Master Agreements between subcontractors and the Contract Vendor shall include a provision requiring compliance with this section.

8. **CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**
   a. Certification regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier Covered Transactions.
      Instructions for certification:
      1. By signing and submitting this proposal, the prospective lower tier participant [responder] is providing the certification set out below.

      2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the federal government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

3. The prospective lower tier participant shall provide immediate written notice to the person to whom this proposal [response] is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or had become erroneous by reason of changed circumstances.

4. The terms covered transaction, debarred, suspended, ineligible lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this clause, have the meaning set out in the Definitions and Coverages section of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

5. The prospective lower tier participant agrees by submitting this response that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction [subcontract equal to or exceeding $25,000] with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled, "Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion – Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from covered transactions, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the list of parties excluded from federal procurement and nonprocurement programs.

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

b. Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – Lower Tier Covered Transactions.

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

9. CHANGE REQUESTS. The Lead State reserves the right to request, during the term of the Master Agreement, changes to the products offered. Products introduced during the term of the Master Agreement shall go through a formal review process. A formal process of changing the Master Agreement shall be developed during the negotiation of the Master Agreement. The Contract Vendor shall evaluate and recommend products for which agencies have an expressed need. The Lead State shall require the Contract Vendor to provide a summary of its research of those products being recommended for inclusion in the Master Agreement as well as defining how adding the product will enhance the Master Agreement. The Lead State may request that products, other than those recommended, are added to the Master Agreement.

In the event that the Lead State desires to add new products and services that are not included in the original Master Agreement, the Lead State requires that independent manufacturers and resellers cooperate with the already

established Contract Vendor in order to meet the Lead State's requirements. Evidence of the need to add products or services should be demonstrated to the Lead State. The Master Agreement shall be modified via supplement or amendment. The Lead State will negotiate the inclusion of the products and services with the Contract Vendor. No products or services will be added to the Master Agreement without the Lead State's prior approval.

10. **CONFLICT MINERALS.** Contract Vendor must provide information to the public on its website regarding the use of conflict minerals, as required by Section 13(p) of the Securities Exchange Act of 1934, as amended, and the rules promulgated thereunder. See: http://www.sec.gov/rules/final/2012/34-67716.pdf.

11. **COPYRIGHTED MATERIAL WAIVER.** The Lead State reserves the right to use, reproduce and publish proposals in any manner necessary for State agencies and local units of government to access the responses and/or to respond to request for information pursuant to Minnesota Government Data Practices Act, , including but not limited to emailing, photocopying, State Intranet/Internet postings, broadcast faxing, and direct mailing. In the event that the response contains copyrighted or trademarked materials, it is the responder's responsibility to obtain permission for the Lead State to reproduce and publish the information, regardless of whether the responder is the manufacturer or reseller of the products listed in the materials. By signing its response, the responder certifies that it has obtained all necessary approvals for the reproduction and/or distribution of the contents of its response and agrees to indemnify, protect, save and hold the Lead State, its representatives and employees harmless from any and all claims arising from the violation of this section and agrees to pay all legal fees incurred by the Lead State in the defense of any such action.

12. **EFFECTIVE DATE.** Pursuant to Minnesota law, the Master Agreement arising from this RFP shall be effective upon the date of final execution by the Lead State, unless a later date is specified in the Master Agreement.

13. **FOREIGN OUTSOURCING OF WORK.** Upon request, the Contract Vendor is required to provide information regarding the location of where services, data storage and/or location of data processing under the Master Agreement will be performed.

14. **GOVERNMENT DATA PRACTICES.** The Contract Vendor and the Lead State must comply with the Minnesota Government Data Practices Act, Minn. Stat. Ch. 13, (and where applicable, if the Lead State contracting party is part of the judicial branch, with the Rules of Public Access to Records of the Judicial Branch promulgated by the Minnesota Supreme Court as the same may be amended from time to time) as it applies to all data provided by the Lead State to the Contract Vendor and all data provided to the Lead State by the Contract Vendor. In addition, the Minnesota Government Data Practices Act applies to all data created, collected, received, stored, used, maintained, or disseminated by the Contract Vendor in accordance with the Master Agreement that is private, nonpublic, protected nonpublic, or confidential as defined by the Minnesota Government Data Practices Act, Ch. 13 (and where applicable, that is not accessible to the public under the Rules of Public Access to Records of the Judicial Branch).

    In the event the Contract Vendor receives a request to release the data referred to in this article, the Contract Vendor must immediately notify the Lead State. The Lead State will give the Contract Vendor instructions concerning the release of the data to the requesting party before the data is released. The civil remedies of Minn. Stat. § 13.08, apply to the release of the data by either the Contract Vendor or the Lead State.

    The Contract Vendor agrees to indemnify, save, and hold the State of Minnesota, its agent and employees, harmless from all claims arising out of, resulting from, or in any manner attributable to any violation of any provision of the Minnesota Government Data Practices Act (and where applicable, the Rules of Public Access to Records of the Judicial Branch), including legal fees and disbursements paid or incurred to enforce this provision of the Master Agreement. In the event that the Contract Vendor subcontracts any or all of the work to be performed under the Master Agreement, the Contract Vendor shall retain responsibility under the terms of this article for such work.

15. **HAZARDOUS SUBSTANCES.** To the extent that the goods to be supplied by the Contract Vendor contain or may create hazardous substances, harmful physical agents or infectious agents as set forth in applicable State and federal laws and regulations, the Contract Vendor must provide Material Safety Data Sheets regarding those substances. A copy must be included with each delivery.

16. **HUMAN RIGHTS/AFFIRMATIVE ACTION.** The Lead State requires affirmative action compliance by its Contract Vendors in accordance with Minn. Stat. § 363A.36 and Minn. R. 5000.3400 to 5000.3600.

    a. Covered contracts and Contract Vendors. One-time acquisitions, or a contract for a predetermined amount of goods and/or services, where the amount of your response is in excess of $100,000 requires completion of the Affirmative Action Certification page. If the solicitation is for a contract for an indeterminate amount of goods and/or services, and the State estimated total value of the contract exceeds $100,000 whether it will be a multiple

award contract or not, you must complete the Affirmative Action Certification page. If the contract dollar amount or the State estimated total contract amount exceeds $100,000 and the Contract Vendor employed more than 40 full-time employees on a single working day during the previous 12 months in Minnesota or in the state where it has its principal place of business, the Contract Vendor must comply with the requirements of Minn. Stat. § 363A.36, subd. 1 and Minn. R. 5000.3400 to 5000.3600. A Contract Vendor covered by Minn. Stat. § 363A.36, subd. 1 and Minn. R. 5000.3400 to 5000.3600 that had more than 40 full-time employees within Minnesota on a single working day during the previous 12 months must have a certificate of compliance issued by the commissioner of the Department of Human Rights (certificate of compliance). A Contract Vendor covered by Minn. Stat. § 363A.36, subd. 1 that did not have more than 40 full-time employees on a single working day during the previous 12 months within Minnesota but that did have more than 40 full-time employees in the state where it has its principal place of business and that does not have a certificate of compliance must certify that it is in compliance with federal affirmative action requirements.

b. Minn. Stat. § 363A.36, subd. 1 requires the Contract Vendor to have an affirmative action plan for the employment of minority persons, women, and qualified disabled individuals approved by the commissioner of the Department of Human Rights (commissioner) as indicated by a certificate of compliance. Minn. Stat. § 363A.36 addresses suspension or revocation of a certificate of compliance and contract consequences in that event. A contract awarded without a certificate of compliance may be voided.

c. Minn. R. 5000.3400-5000.3600 implement Minn. Stat. § 363A.36. These rules include, but are not limited to, criteria for contents, approval, and implementation of affirmative action plans; procedures for issuing certificates of compliance and criteria for determining a Contract Vendor's compliance status; procedures for addressing deficiencies, sanctions, and notice and hearing; annual compliance reports; procedures for compliance review; and contract consequences for noncompliance. The specific criteria for approval or rejection of an affirmative action plan are contained in various provisions of Minn. R. 5000.3400-5000.3600 including, but not limited to, parts 5000.3420-5000.3500 and parts 5000.3552-5000.3559.

d. Disabled Workers. Minn. R. 5000.3550 provides the Contract Vendor must comply with the following affirmative action requirements for disabled workers.

AFFIRMATIVE ACTION FOR DISABLED WORKERS

(a) The Contract Vendor must not discriminate against any employee or applicant for employment because of physical or mental disability in regard to any position for which the employee or applicant for employment is qualified. The Contract Vendor agrees to take affirmative action to employ, advance in employment, and otherwise treat qualified disabled persons without discrimination based upon their physical or mental disability in all employment practices such as the following: employment, upgrading, demotion or transfer, recruitment, advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

(b) The Contract Vendor agrees to comply with the rules and relevant orders of the Minnesota Department of Human Rights issued pursuant to the Minnesota Human Rights Act.

(c) In the event of the Contract Vendor's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with Minn. Stat. § 363A.36 and the rules and relevant orders of the Minnesota Department of Human Rights issued pursuant to the Minnesota Human Rights Act.

(d) The Contract Vendor agrees to post in conspicuous places, available to employees and applicants for employment, notices in a form to be prescribed by the commissioner of the Minnesota Department of Human Rights. Such notices must state the Contract Vendor's obligation under the law to take affirmative action to employ and advance in employment qualified disabled employees and applicants for employment, and the rights of applicants and employees.

(e) The Contract Vendor must notify each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, that the Contract Vendor is bound by the terms of Minn. Stat. § 363A.36 of the Minnesota Human Rights Act and is committed to take affirmative action to employ and advance in employment physically and mentally disabled persons.

e. Consequences. The consequences of a Contract Vendor's failure to implement its affirmative action plan or make a good faith effort to do so include, but are not limited to, suspension or revocation of a certificate of compliance

by the commissioner, refusal by the commissioner to approve subsequent plans, and termination of all or part of the Contract by the commissioner or the State.

f. Certification. The Contract Vendor hereby certifies that it is in compliance with the requirements of Minn. Stat. § 363A.36, subd. 1 and Minn. R. 5000.3400-5000.3600 and is aware of the consequences for noncompliance. It is agreed between the parties that Minn. Stat. 363.36 and Minn. R. 5000.3400 to 5000.3600 are incorporated into any contract between these parties based upon this specification or any modification of it. A copy of Minn. Stat. § 363A.36 and Minn. R. 5000.3400 to 5000.3600 are available upon request from the contracting agency.

17. **INDEMNIFICATION** The Contract Vendor shall indemnify, protect, save and hold harmless the Lead State and the Participating Entity, its representatives and employees, from any and all claims or causes of action, including all legal fees incurred by the Lead State and the Participating Entity arising from the performance of the Master Agreement by the Contract Vendor or its agents, employees, or subcontractors. This clause shall not be construed to bar any legal remedies the Contract Vendor may have with the Lead State's and Participating Entity's failure to fulfill its obligations pursuant to the Master Agreement.

    If the Participating Entity's laws require approval of a third party to defend Participating Entity, Participating Entity will seek such approval and if approval is not received, Contract Vendor is not required to defend that Participating Entity.

18. **INTELLECTUAL PROPERTY INDEMNIFICATION.** The Contract Vendor warrants that any materials or products provided or produced by the Contract Vendor or utilized by the Contract Vendor in the performance of this Master Agreement will not infringe upon or violate any patent, copyright, trade secret, or any other proprietary right of any third party. In the event of any such claim by any third party against the Participating Entity, the Participating Entity shall promptly notify the Contract Vendor. The Contract Vendor, at its own expense, shall indemnify; defend to the extent permitted by the Participating Entity's laws, and hold harmless the Participating Entity against any loss, cost, expense, or liability (including legal fees) arising out of such a claim, whether or not such claim is successful against the Participating Entity.

    If such a claim has occurred, or in the Contract Vendor's opinion is likely to occur, the Contract Vendor shall either procure for the Participating Entity the right to continue using the materials or products or replacement or modified materials or products. If an option satisfactory to the Participating Entity is not reasonably available, the Participating Entity shall return the materials or products to the Contract Vendor, upon written request of the Contract Vendor and at the Contract Vendor's expense. This remedy is in addition to any other remedy provided by law

19. **JURISDICTION AND VENUE.** This RFP and any ensuing Master Agreement, its amendments and supplements thereto, shall be governed by the laws of the State of Minnesota, USA. Venue for all legal proceedings arising out of the Master Agreement, or breach thereof, shall be in the State or federal court with competent jurisdiction in Ramsey County, Minnesota. By submitting a response to this Request for Proposal, a Responder voluntarily agrees to be subject to the jurisdiction of Minnesota for all proceedings arising out of this RFP, any ensuing Master Agreement, or any breach thereof.

20. **LAWS AND REGULATIONS.** Any and all services, articles or equipment offered and furnished must comply fully with all local, State and federal laws and regulations, including Minn. Stat. § 181.59 prohibiting discrimination and business registration requirements of the Office of the Minnesota Secretary of State.

21. **NONVISUAL ACCESS STANDARDS.** Pursuant to Minn. Stat. § 16C.145, the Contract Vendor shall comply with the following nonvisual technology access standards :

    a. That the effective interactive control and use of the technology, including the operating system applications programs, prompts, and format of the data presented, are readily achievable by nonvisual means;

    b. That the nonvisual access technology must be compatible with information technology used by other individuals with whom the blind or visually impaired individual must interact;

    c. That nonvisual access technology must be integrated into networks used to share communications among employees, program participants, and the public; and

    d. That the nonvisual access technology must have the capability of providing equivalent access by nonvisual means to telecommunications or other interconnected network services used by persons who are not blind or visually impaired.

These standards do not require the installation of software or peripheral devices used for nonvisual access when the information technology is being used by individuals who are not blind or visually impaired.

22. **NOTICE TO RESPONDERS.** Pursuant to Minn. Stat. § 270C.65, subd. 3, Contract Vendors are required to provide their Federal Employer Identification Number or Social Security Number. This information may be used in the enforcement of federal and State tax laws. Supplying these numbers could result in action to require a Contract Vendor to file tax returns and pay delinquent tax liabilities. These numbers will be available to federal and State tax authorities and State personnel involved in the payment of State obligations.

23. **ORGANIZATIONAL CONFLICTS OF INTEREST.** The responder warrants that, to the best of its knowledge and belief, and except as otherwise disclosed, there are no relevant facts or circumstances which could give rise to organizational conflicts of interest. An organizational conflict of interest exists when, because of existing or planned activities or because of relationships with other persons:
    - a Contract Vendor is unable or potentially unable to render impartial assistance or advice to the State;
    - the Contract Vendor's objectivity in performing the work is or might be otherwise impaired; or
    - the Contract Vendor has an unfair competitive advantage.

    The Contract Vendor agrees that if an organizational conflict of interest is discovered after award, an immediate and full disclosure in writing shall be made to the Assistant Director of the Department of Administration's Materials Management Division that shall include a description of the action the Contract Vendor has taken or proposes to take to avoid or mitigate such conflicts. If an organizational conflict of interest is determined to exist, the State may, at its discretion, cancel the Master Agreement. In the event the Contract Vendor was aware of an organizational conflict of interest prior to the award of the Master Agreement and did not disclose the conflict to the Master Agreement Administrator, the State may terminate the Master Agreement for default. The provisions of this clause shall be included in all subcontracts for work to be performed, and the terms "Contract,""Contract Vendor," "Master Agreement", "Master Agreement Administrator" and "Contract Administrator" modified appropriately to preserve the State's rights.

24. **PAYMENT CARD INDUSTRY DATA SECURITY STANDARD AND CARDHOLDER INFORMATION SECURITY.** Contract Vendor assures all of its Network Components, Applications, Servers, and Subcontractors (if any) comply with the Payment Card Industry Data Security Standard ("PCIDSS"). "Network Components" shall include, but are not limited to, Contract Vendor's firewalls, switches, routers, wireless access points, network appliances, and other security appliances; "Applications" shall include, but are not limited to, all purchased and custom external (web) applications. "Servers" shall include, but are not limited to, all of Contract Vendor's web, database, authentication, DNS, mail, proxy, and NTP servers. "Cardholder Data" shall mean any personally identifiable data associated with a cardholder, including, by way of example and without limitation, a cardholder's account number, expiration date, name, address, social security number, or telephone number.

    Subcontractors (if any) must be responsible for the security of all Cardholder Data in its possession; and will only use Cardholder Data for assisting cardholders in completing a transaction, providing fraud control services, or for other uses specifically required by law. Contract Vendor must have a business continuity program which conforms to PCIDSS to protect Cardholder Data in the event of a major disruption in its operations or in the event of any other disaster or system failure which may occur to operations; will continue to safeguard Cardholder Data in the event this Agreement terminates or expires; and ensure that a representative or agent of the payment card industry and a representative or agent of the State shall be provided with full cooperation and access to conduct a thorough security review of Contract Vendor's operations, systems, records, procedures, rules, and practices in the event of a security intrusion in order to validate compliance with PCIDSS.

25. **PERFORMANCE WHILE DISPUTE IS PENDING.** Notwithstanding the existence of a dispute, the parties shall continue without delay to carry out all of their responsibilities under the Master Agreement that are not affected by the dispute. If a party fails to continue without delay to perform its responsibilities under the Master Agreement, in the accomplishment of all undisputed work, any additional cost incurred by the other parties as a result of such failure to proceed shall be borne by the responsible party.

26. **PREFERENCE.**
    Targeted/Economically Disadvantaged. In accordance with Minn. Stat. § 16C.16, subds. 6 and 7, eligible certified targeted group (TG) businesses and certified economically disadvantaged (ED) businesses will receive a 6 percent preference on the basis of award for this RFP. The preference is applied only to the first $500,000 of the response to

the RFP. Eligible TG businesses must be currently certified by the Materials Management Division prior to the bid opening date and time.

To verify TG/ED certification, refer to the Materials Management Division's web site at www.mmd.admin.state.mn.usunder "Vendor Information, Directory of Certified TG/ED Vendors."

To verify TG eligibility for preference, refer to the Materials Management Division's web site under "Vendor Information, Targeted Groups Eligible for Preference in State Purchasing" or call the Division's HelpLine at 651.296.2600.

Reciprocal Preference. In accordance with Minn. Stat. §16C.06, subd 7, the acquisition of goods or services shall be allowed a preference over a non-resident vendor from a state that gives or requires a preference to vendors from that state, the preference shall be equal to the preference given or required by the state of the non-resident vendor. If you wish to be considered a Minnesota Resident vendor you must claim that by filling out the Resident Vendor Form included in this solicitation and include it in your response.

Veteran. In accordance with Minn. Stat. § 16C.16, subd. 6a, (a) Except when mandated by the federal government as a condition of receiving federal funds, the commissioner shall award up to a six percent preference in the amount bid on state procurement to **certified small businesses** that are **majority-owned and operated by**:

(1) recently separated veterans who have served in active military service, at any time on or after September 11, 2001, and who have been discharged under honorable conditions from active service, as indicated by the person's United States Department of Defense form DD-214 or by the commissioner of veterans affairs;
(2) veterans with service-connected disabilities, as determined at any time by the United States Department of Veterans Affairs; or
(3) any other veteran-owned small businesses certified under section 16C.19, paragraph (d).

In accordance with Minn. Stat. § 16C.19 (d), a veteran-owned small business, the principal place of business of which is in Minnesota, is certified if it has been verified by the United States Department of Veterans Affairs as being either a veteran-owned small business or a service disabled veteran-owned small business, in accordance with Public Law 109-461 and Code of Federal Regulations, title 38, part 74.

To receive a preference the veteran-owned small business must meet the statutory requirements above by the solicitation opening date and time. The preference is applied only to the first $500,000 of the response. If responder is claiming the veteran-owned preference, attach documentation, sign and return form with response to the solicitation. Only eligible veteran-owned small businesses that meet the statutory requirements and provide adequate documentation will be given the preference.

27. **PUBLIC INFORMATION.** Once the information contained in the responses is deemed public information, interested parties may request to obtain the public information. You may call 651.201.2413 between the hours of 8:00 a.m. to 4:30 p.m. to arrange this.

28. **PUBLICITY.** Any publicity given to the program, publications or services provided resulting from a State contract for goods or services, including but not limited to notices, informational pamphlets, press releases, research, reports, signs and similar public notices prepared by or for the Contract Vendor, or its employees individually or jointly with others, or any subcontractors, shall identify the State as the sponsoring agency and shall not be released, unless such release is a specific part of an approved work plan included in the Master Agreement prior to its approval by the State's Authorized Representative and the State's Assistant Director or designee of Materials Management Division. The Contract Vendor shall make no representations of the State's opinion or position as to the quality or effectiveness of the products and/or services that are the subject of the Master Agreement without the prior written consent of the State's Assistant Director or designee of Materials Management Division. Representations include any publicity, including but not limited to advertisements, notices, press releases, reports, signs, and similar public notices.

29. **PURCHASE ORDERS.** The State requires that there will be no minimum order requirements or charges to process an individual purchase order. The Master Agreement number and the PO number must appear on all documents (e.g., invoices, packing slips, etc.). The Ordering Entity's purchase order constitutes a binding contract

30. **RIGHTS RESERVED.** Notwithstanding anything to the contrary, the State reserves the right to:
    a. reject any and all responses received;
    b. select, for Master Agreements or for negotiations, a response other than that with the lowest cost;
    c. waive or modify any informalities, irregularities, or inconsistencies in the responses received;
    d. negotiate any aspect of the proposal with any responder and negotiate with more than one responder;
    e. request a BEST and FINAL OFFER, if the State deems it necessary and desirable; and

f. terminate negotiations and select the next response providing the best value for the State, prepare and release a new RFP, or take such other action as the State deems appropriate if negotiations fail to result in a successful Master Agreement.

31. **RISK OF LOSS OR DAMAGE.** The State is relieved of all risks of loss or damage to the goods and/or equipment during periods of transportation, and installation by the Contract Vendor and in the possession of the Contract Vendor or their authorized agent.

32. **SEVERABILITY.** If any provision of the Master Agreement, including items incorporated by reference, is found to be illegal, unenforceable, or void, then both the State and the Contract Vendor shall be relieved of all obligations arising under such provisions. If the remainder of the Master Agreement is capable of performance it shall not be affected by such declaration or finding and shall be fully performed.

33. **STATE AUDITS** (Minn. Stat. § 16C.05, subd. 5). The books, records, documents, and accounting procedures and practices of the Contract Vendor or other party, that are relevant to the Master Agreement or transaction are subject to examination by the contracting agency and either the Legislative Auditor or the State Auditor as appropriate for a minimum of six years after the end of the Master Agreement or transaction. The State reserves the right to authorize delegate(s) to audit this Master Agreement and transactions.

34. **SURVIVABILITY.** The following rights and duties of the State and responder will survive the expiration or cancellation of the resulting Master Agreements. These rights and duties include, but are not limited to paragraphs: Indemnification, Hold Harmless and Limitation of Liability, State Audits, Government Data Practices, Governing Law, Jurisdiction and Venue, Publicity, Intellectual Property Indemnification, and Admin Fees.

35. **TRADE SECRET/CONFIDENTIAL INFORMATION.** Any information submitted as Trade Secret must be identified and submitted per the Trade Secret Form and must meet Minnesota Trade Secret as defined in Minn. Stat. § 13.37

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

EXHIBIT B - PRICING

1. **BAND(S) AWARDED:** Band 1: Desktop Band 2: Laptop Band 3: Tablet Band 4: Server Band 5: Storage.

2. **PRICE STRUCTURE.** The contract employs a MINIMUM discount-off baseline price list structure with category exceptions for each band. The category discounts may be higher or lower than the than the band discount. The minimum discount and categorized exceptions will be applied to all "quantity one" procurements. An end user will be able to verify pricing using the named base line price list and the minimum discounts with the categorized exceptions provided in the Master Agreement.

3. **PRICE GUARANTEE.** These discounts must remain firm, or the discount may be increased, during the term of the Master Agreement.

4. **BASELINE PRICE LIST.** The Base Line Price is designated in the Pricing Discount Schedule. The Base Line Price List must be accessible and verifiable by potential end users preferably on the Contract Vendor Website. All historic versions of the Baseline Price List must be made available upon request pursuant to the audit provisions.

5. **PRODUCT AND SERVICE SCHEDULE (PSS).** The Product and Service Schedule (PSS) identifies a complete listing of all products and services included in the awarded Master Agreement. The PSS serves as the Contract Catalog. **The PSS will be submitted to the Lead State following contract award and must be approved by the Lead State prior to the start of any sales.** The PSS must be available on the Contract Vendor website for end users to verify pricing based on the minimum discounts with category exceptions provided off a designated base line price list. The Contract Vendor will work with each State to develop a satisfactory PSS reflecting the individual States restrictions.

6. **CHANGES TO THE PSS:** Contract Vendor will request changes to the PSS utilizing an Action Request Form (ARF) Submittals will be reviewed by the Lead State quarterly. Obsolete and discontinued products will be removed.

7. **BULK/VOLUME PRICING**. Further bulk/quantity savings may be obtained when additional quantities are requested. Additional savings are expected when competing awarded vendors for volume pricing.

8. **PROMOTIONAL OFFERS.** Contract Vendors may provide promotions for deeply discounted products based on their inventory and sales. The Contract Vendors will be responsible to market these offers.

9. **PREMIUM SAVINGS PACKAGE PROGRAM.** Contract Vendors participating in the Premium Savings Package (PSP) Program will commit to the standard configurations. The standards currently are refreshed every six months (May and November). Refresh schedule is subject to change. See current configurations: http://www.wnpsp.com/index.html. States and other Participating Entities can choose to purchase these packages without any signing additional documents.

10. **TRADE-IN.** Trade-In Programs are the option of the Participating Entity. The Participating Addendum by each State may address the allowance of Trade-Ins.

11. **SERVICES.** Services are at the option of the Participating Entity. The Participating Addendum by each State may address service agreement terms and related travel.

12. **LEASING.** The Discount schedule will indicate if the Contract Vendor provides leasing. Participating Entities may enter in to lease agreements if they have the legal authority to enter into these types of agreements. The Participating Addendum by each State will identify if and how leasing agreement terms will be conducted.

13. **FREIGHT**. All prices shall be FOB Destination, prepaid and allowed (with freight included in the price), to the address, receiving dock or warehouse as specified on the ordering agency's purchase order, In those situations in which the "deliver-to" address has no receiving dock or agents, the Contract Vendor must be able to deliver to the person specified on the PO without additional cost. If there is a special case where inside delivery fee must be charged, the Contract Vendor will notify the customer in advance in order for the customer to determine if the additional cost will affect the decision to utilize the Contract Vendor.

14. **DELIVERY.** Delivery of ordered product should be completed within thirty (30) calendar days after receipt of an order, unless otherwise agreed to by the ordering agency.

Admin Minnesota
DEPARTMENT OF ADMINISTRATION

COMPUTER EQUIPMENT
2014-2019

WSCA-NASPO
COOPERATIVE PURCHASING ORGANIZATION

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

EXHIBIT B - PRICING SCHEDULE

1. BASELINE PRICE LIST: TRANSOURCE MSRP		
LINK: http://www.transource.com/customers/wsca/BasePriceSheet.asp		
2. BAND DISCOUNTS – (CATEGORY EXCEPTIONS APPLICABLE IN ALL BANDS)	**CATEGORY**	**MINIMUM DISCOUNT**
BAND 1 DESKTOP	43211507	24%
BAND 2 LAPTOP	43211503	24%
BAND 3 TABLET	43211509	10%
BAND 4 SERVER	43211501	31%
BAND 5 STORAGE	71151106	31%
CATEGORY EXCEPTION: Product Promotions		1%
IMPORTANT: The minimum discount is provided, refer to Contract Vendor's Website for any additional discounts and request a quote for bulk/volume discounts. All prices shall be FOB Destination, prepaid and allowed (with freight included in the price). If there is a special case where inside delivery fee must be charged, the Contract Vendor will notify the customer in advance.		
3 THIRD PARTY PRODUCTS - (APPLICABLE IN ALL BANDS)	43211724	10%
4 SERVICES		
Services are at the option of Participating States. Participating Addendums by each State may address service agreement terms and related travel. States may negotiate additional services. The majority of manufacturer's hardware includes a three year warranty. Customer may purchase warranty upgrades for certain hardware as offered. For standard warranty information **http://www.transource.com/support/default.asp**		
Accidental Damage – Complete Care: $150 Break/fix non warranty: $75/hour Desktop Installation: (options: copper, sterling and turquoise – see website for details) Copper=$25 Sterling Silver=$40 Turquoise=$75 Training $65/hour		
INCLUDED: 3 year warranty, image loading, image consulting, asset tagging, consulting, staging/deployment(products needing staging prior to deployment will be stored in contract vendor warehouse at no additional cost)		
5. LEASING		
Contract Vendor does not offer leasing.		
6. ADDITIONAL DISCOUNTS – Request a quote for discounts on bulk/volume purchases.		
a. Per Transaction Multiple Unit: Over $250,000 = up to 1.5% additional on Transource systems from Baseline Pricing or .5% on peripherals Over $500,000 = up to 2% additional on Transource systems from Baseline Pricing or .75% on peripherals Over $1 million - up to 3% additional on Transource systems from Baseline Pricing or 1% on peripheral		
b. Cumulative Discounts are based on Total Master Agreement Sales: Over $20 million – Additional .5% from Baseline Pricing Over $50 million – Additional 1% from Baseline Pricing Over $100 million – Additional 1.5% from Baseline Pricing		
c. Annual Volume Discounts: Over $2 million – Additional .5% from Baseline Pricing Over $5 million – Additional 1% from Baseline Pricing Over $10 million – Additional 1.5% from Baseline Pricing		

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

EXHIBIT C - PRODUCT AND SERVICE SCHEDULE (PSS)

1. **MAINTAINING THE PSS.** The Product and Service Schedule (PSS) identifies a complete listing of all products and services included in the awarded Master Agreement. The PSS serves as the WSCA-NASPO Contract Catalog. **The PSS will be submitted to the Lead State following contract award and must be approved by the Lead State prior to the start of any sales.** The PSS must be available on the Contract Vendor website for end users to verify pricing based on the minimum discounts with category exceptions provided off a designated base line price list. The Contract Vendor will work with each State to develop a satisfactory PSS reflecting the individual States restrictions. The Contract Vendor will work to develop a PSS satisfactory to the Lead State prior to the start of sales and containing the following information:
   a. Band number
   b. Part # - SKU #
   c. Manufacturer
   d. Description
   e. Minimum Discount
   f. Category Code (This code will be refined during the approval process)
   g. Other fields approved by the Lead State

2. **CHANGES TO THE PSS:** Contract Vendor will request changes to the PSS utilizing an Action Request Form (ARF) Submittals will be reviewed by the Lead State quarterly. Obsolete and discontinued products will be removed.

3. **FORMAT:** The format for the final product and service schedule will be approved within 30 days of contract award. Suggested **format** is provided below:

MANUFACTURER NAME _____ **DATE:** _____
BASELINE PRICE LIST: _____
LINK: _____

BAND	Part # - SKU#	MANUFACTURER	DESCRIPTION	MINIMUM DISCOUNT	CATEGORY CODE
1	XYZ	ABC	DESKTOP	60%	1M
2	550	ZZZZZZZ	LAPTOP CART	10%	2TM
3	123A	ABC	SUPER TABLET	25%	3A

4. **THIRD PARTY PRODUCTS:** A list of third party products is to be submitted to the Lead State. Approval must be **received** from the Lead State prior to adding third party products to the Product and Service Schedule. Master Agreement restrictions of third party products include:
   a. Contract Vendors can only offer Third Party Products in the bands they have been awarded.
   b. Contract Vendor cannot offer products manufactured by another Contract Vendor holding a Minnesota WSCA-NASPO Master Agreement unless approved by the Lead State.
   c. The Contract Vendor will assign the manufacturer or publisher's warranty and maintenance. The Contract Vendor will provide warranty and maintenance call numbers and assist the customer in engaging the manufacturer on warranty and maintenance issues.
   d. Any additions to the Third Party Product list must be submitted utilizing the Action Request Form.
   e. The approved Third Party Product list will be clearly posted on the Vendor provided website and updated as products are approved.

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

EXHIBIT D - WEBSITE

1. **IMPLEMENTATION.** Within 30 calendar days of Master Agreement award, the Contract Vendor must provide a sample URL of the Master Agreement webpage to the Lead State for review and approval. The Lead State will review and determine acceptability of the website format and data. If the information is determined to be unacceptable or incorrect, the Contract Vendor will have 15 calendar days to provide revisions to the Lead State. Once the website is approved, the Contract Vendor may not make material changes to the website without notifying the Lead State and receiving written approval of the changes utilizing the Action Request Form. The Contract Vendor must continue to monitor and update the website throughout the life of the contract. Periodic audits may be conducted to ensure websites are updated and Contract Vendors will be expected to correct deficiencies.

2. **WEBSITE CONTENT.** The website must be separate from the Contract Vendor's commercially available (i.e., public) on-line catalog and ordering systems. Contract Vendor agrees to pursue design of a website to include the items listed below. The Lead State will review and determine acceptability of the website format and data as stated in Item 1 above.
   a) Baseline Price List and historic versions
   b) Approved Product and Service Schedule (PSS)
   c) Product specifications, pricing, and configuration aids for the major product categories proposed that can be used to obtain an on-line quote
   d) Third Party Product list will be clearly posted on the Vendor provided website and updated as products are approved
   e) Link to the WSCA-NASPO EmarketCenter
   f) Online ordering capability with the ability to remember multiple ship to locations if applicable to product
   g) Contact information for order placement, service concerns (warranty and maintenance), problem reporting, and billing concerns
   h) Sales representatives for participating entities
   i) Purchase order tracking
   j) Available Twenty-four (24) hours per day, seven (7) days per week availability, except for regularly scheduled maintenance
   k) Additional Terms may not be posted on the Website without written approval of the Lead State
   l) Link to the WSCA-NASPO EmarketCenter if a State is participating
   m) Information on accessibility and accessible products
   n) If participating in Premium Savings Package Program, lead with these products and display prominently on the website
   o) Links to environmental certification, including but not limited to take-back/recycling programs,
   p) Information regarding the use of Conflict minerals, as required by Section 13(p) of the Securities Exchange Act of 1934, as amended, and the rules promulgated thereunder. See: http://www.sec.gov/rules/final/2012/34-67716.pdf.
   q) Service options, service agreements for negotiations when allowed by a participating addendum
   r) EPEAT, Energy Star, etc.
   s) Link to Signed Participating Addendums
   t) Link to Signed Master Agreement
   u) Link to solicitation and Response.

3. **TERMINATION** Upon termination or expiration of the Master Agreement awarded from this RFP all websites, on-line offering systems and Electronic Catalog functions supported and/or available as part of the Master Agreement will cease and be removed from public viewing access without redirecting to another website.

COMPUTER EQUIPMENT
2014-2019

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

EXHIBIT E - ACTION REQUEST UPDATE FORM (ARF)

The Action Request Form (ARF) provided in this document must be utilized by the Contract Vendor to provide quarterly updates of PSS and to make requests. The Action Request Forms may be reviewed quarterly by the Lead State.

DATE: _____

ATTN: WSCA-NASPO Master Agreement Administrator

RE: Master Agreement #_____with _____(Contract Vendor)

Dear WSCA-NASPO Master Agreement Administrator:

_____ (Contract Vendor) is providing the following update and/or requesting the action noted below.

Action Requested: _____
Action Log: _____ Verify Log is attached

SELECT ACTION BELOW AND PROVIDE REQUIRED INFORMATION:

___Update of Product & Service Schedule Provide summary of additions, deletions and pricing changes.
NOTE: THIS WILL BE A NOTIFICATION OF CHANGES TO THE PSS, APPROVAL WILL NOT BE NEEDED
___Quarterly Self Audit Check this box to verify the Quarterly Self Audit has been completed

___Third Party Product Addition Provide warranty Guarantee

___Marketing Approval Attach Materials for review

___Material Website Change Describe and provide link for review

___Miscellaneous Inquiry Provide detail (e.g. key contact change, etc.)

The Contract Vendor certifies Products and Services provided meet the terms and conditions of the Master Agreement and understands they may be audited for compliance. Additional information may be requested upon submission. The Lead State may remove previously approved items throughout the life of the Master Agreement if in the best interest at its sole discretion.

Contract Vendor: _____ Name of Requester: _____

Title of Requester: _____

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

EXHIBIT E - ACTION REQUEST FORM (ARF)

ACTION REQUEST FORM
LOG

Submit updated Action Log with each update. Log must provide history of previous update.

CONTRACT VENDOR: _____

Contact Name and Email (for questions): _____

DATE: _____

DATE SUBMITTED	ACTION REQUESTED:	DATE APPROVED

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

EXHIBIT F - REPORTING

1. **OWNERSHIP:** Recipient of the reports shall have exclusive ownership of the media containing the reports. The Lead State and WSCA-NASPO shall have a perpetual, irrevocable, non-exclusive, royalty free, transferable right to display, modify, copy, and otherwise use reports, data and information provided.

2. **DUE DATE:** Reports shall be due no later than the last day of the month following the end of the calendar quarter.

	FROM	TO	DUE
Q1	January 1	March 31	April 30
Q2	April 1	June 30	July 31
Q3	July 1	September 30	October 31
Q4	October 1	December 31	January 31

3. **REQUIRED REPORTS:**

	Report Name	Submitted to	Purpose & Submittal
1	WSCA-NASPO Administrative Fee	WSCA-NASPO	Identify total sales and administrative fee due to WSCA-NASPO 1) Go to: http://www.naspo.org/WNCPO/Calculator.aspx 2) Complete all contract report information fields 3) Enter total sales per State or Select "no sales for quarter" checkbox 4) Click on Submit button
2	WSCA-NASPO Detailed Sales	WSCA-NASPO	Detailed sales data by line item. Currently via an Excel Report template. Future MAY involve a portal. No modifications may be made by the Contract Vendor to the template. This report may also fulfill the reporting requirements of self audits, premium savings sales, and Bring Your Own Device Employee Sales.
3	Participating States	Participating State	Contract Vendor may utilize the detailed sales report to report to individual States unless otherwise directed by the State. States may require additional reporting.
4	Participating Addendum Status	WSCA-NASPO	Provides status of Participating Addendums. Excel Template to be provided by WSCA-NASPO.
5	Premium Saving Package (PSP)	PSP Lead	Additional reporting may be requested.
6	Quarterly Updates of PSS and Self Audit	Lead State	Utilize the Action Request Form (ARF)

MINNESOTA WSCA-NASPO MASTER AGREEMENT AWARD

EXHIBIT G - DEFINITIONS

Acceptance. See Master Agreement Terms regarding Acceptance and Acceptance Testing.
Accessory. Accessories do not extend the functionality of the computer, but enhances the user experience i.e., mouse pad, monitor stand. For the purposes of this proposal, accessories are considered peripherals.
Bands: For the purpose of this solicitation, there are six product bands which may be awarded. Each product band includes related peripherals and services. Responders must only respond to Bands in which they manufacture the defined product. Responder may receive an award in one or more bands for which they manufacture a product based on the evaluation.
BAND 1: DESKTOP. A desktop computer is a personal computer intended for regular use at a single location. A desktop computer typically comes in several units connected together during installation: 1) the processor, 2) display monitor and 3) input devices usually a keyboard and a mouse. All operating systems for tablets are allowed. Zero Clients, Thin clients, all in ones and workstations will also be included under desktops. Ruggedized equipment may also be included in the Product and Service schedule for this band.
BAND 2: LAPTOP. A laptop computer is a personal computer for mobile use. A laptop includes a display, keyboard, point device such as a touchpad and speakers into a single unit. A laptop can be used away from an outlet using a rechargeable battery. All operating systems for tablets are allowed. Laptops will include notebooks, ultrabook, mobile thin clients, chromebooks and netbooks. Computers with mobile operating systems will also be included under laptops. Tablets that have the option to be utilized with a keyboard can be sold in this band. Ruggedized equipment may also be included in the Product and Service Schedule for this band.
BAND 3: TABLET. A tablet is a mobile computer that provides a touchscreen which acts as the primary means of control. All operating systems for tablets are allowed. Ruggedized equipment may also be included as a category in the Product and Service Schedule for this band.
BAND 4: SERVER. A server is a physical computer dedicated to run one or more services or applications (as a host) to serve the needs of the users of other computers on a network. This band also includes server appliances. Server appliances have their hardware and software preconfigured by the manufacturer. It also includes embedded networking components such as those found in blade chassis systems. Ruggedized equipment may also be included in the Product and Service Schedule for this band.
BAND 5: STORAGE. Storage is hardware with the ability to store large amounts of data. This band includes SAN switching necessary for the proper functioning of the storage environment. Ruggedized equipment may also be included in the Product and Service Schedule for this band.
~~**BAND 6: RUGGEDIZED DEVICES** Ruggedized refers to devices specifically designed to operate reliably in harsh usage environments and conditions, such as strong vibrations, extreme temperatures and wet or dusty conditions. Ruggedized Devices may also be offered under bands 1-5 of the Master Agreement.~~ BAND 6 REMOVED. RUGGEDIZED EQUIPMENT MAY BE SOLD IN BANDS 1-5, PROVIDED IT MEETS BAND REQUIREMENTS.
Cloud Services. Delivery of computing as a service rather than a product, whereby shared resources, software and information are provided to computers and other devices as a utility over a network, such as the Internet. (Cloud Services including acquisitions structured as managed on-site services are not allowed.)
Contract Vendor or Contractor. The manufacturer responsible for delivering products or performing services under the terms and conditions set forth in the Master Agreement. The Contract Vendor must ensure partners utilized in the performance of this contract adhere to all the terms and conditions. For the purposes of this RFP, the term Partner will be utilized in naming the relationship a manufacturer has with another company to market and sell the contract. Participating States will have final determination/approval if a Partner may be approved for that state in the role identified by the Contract Vendor.
Components. Parts that make up a computer configuration.
Configuration. The combination of hardware and software components that make up the total functioning system.
Desktop. This is Band 1 of this solicitation. A desktop computer is a personal computer intended for regular use at a single location. A desktop computer typically comes in several units connected together during installation: 1) the processor,

2) display monitor and 3) input devices usually a keyboard and a mouse. Desktop virtualization endpoints such as zero and thin clients will also be included under the Desktop Band.

Energy Star®. A voluntary energy efficiency program sponsored by the U.S. Environmental Protection Agency. The Energy Star program makes identification of energy efficient computers easy by labeling products that deliver the same or better performance as comparable models while using less energy and saving money. Energy Star qualified computers and monitors automatically power down to 15 watts or less when not in use and may actually last longer than conventional products because they spend a large portion of time in a low-power sleep mode. For additional information on the Energy Star program, including product specifications and a list of qualifying products, visit the Energy Star website at http://www.energystar.gov.

EPEAT. A system for identifying more environmentally preferable computer desktops, laptops, and monitors. It includes an ANSI standard - the IEEE 1680 EPEAT standard – and website www.epeat.net to identify products manufacturers have declared as meeting the standard. EPEAT provides a clear and consistent set of performance criteria for the design of products. It is not a third-party certification program. Instead, Manufacturers self-certify that their products are in conformance with the environmental performance standard for electronic products.

FOB Destination. Shipping charges are included in the price of the item and the shipped item becomes the legal property and responsibility of the receiver when it reaches its destination unless there is acceptance testing required.

FOB Inside Delivery. Special Shipping arrangements, such as inside delivery, may include additional fees payable by the Purchasing Entity. Any FOB inside delivery must be annotated on the Purchasing Entity ordering document.

General Consulting. Services related to advising agencies on how best to use information technology to meet business objectives. Examples of such services would include management and administration of IT systems. Each State will have varying laws, rules, policies and procedures surrounding general consulting which need adherence. Minnesota Statute section 16C.08 defines general consulting for the State of Minnesota. https://www.revisor.mn.gov/statutes/?id=16C.08

Laptop. This is Band 2 of this solicitation. A laptop computer is a personal computer for mobile use. A laptop includes a display, keyboard, point device such as a touchpad and speakers into a single unit. A laptop can be used away from an outlet using a rechargeable battery. Laptop Band may include notebooks, ultrabooks, and netbooks. Computers with mobile operating systems will also be included under the Laptop Band.

Lead State. The State conducting this cooperative solicitation and centrally administering any resulting Master Agreement with the permission of the Signatory States. Minnesota is the Lead State for this procurement and the laws of Minnesota Statute Chapter 16C apply to this procurement.

Manufacturer. A company that, as one of its primary business function, designs, assembles owns the trademark/patent and markets branded computer equipment.

Master Agreement. The underlying agreement executed by and between the Lead State and the Contract Vendor.

Middleware. Middleware is the software "glue" that helps programs and databases (which may be on different computers) work together. Its most basic function is to enable communication between different pieces of software.

Options. An item of equipment or a feature that may be chosen as an addition to or replacement for standard equipment and features.

Order. A purchase order, sales order, or other document used by a Purchasing Entity to order the Equipment.

Participating Addendum. A written statement of agreement signed by the Contract Vendor and a Participating State or other Participating Entity that clarifies the operation of this Master Agreement for the Participating Entity (e.g., ordering procedures specific to a Participating State) and may add other state-specific language or other requirements. A Participating Addendum evidences the Participant's willingness to purchase and the Contract Vendor's willingness to provide equipment under the terms and conditions of this Master Agreement with any and all exceptions noted and agreed upon.

Participating States. States that utilize the Master Agreement established by the RFP and enter into a Participating Addendum which further defines their participation.

Participating Entity. A Participating State, or other legal entity, properly authorized by a Participating State to enter into the Master Agreement through a Participating Addendum and that authorizes orders from the Master Agreement by Purchasing Entities. Under the WSCA-NASPO program, in some cases, local governments, political subdivisions or other entities in a State may be authorized by the chief procurement official to execute its own Participating Addendum where a Participating Addendum is not executed by the chief procurement official for that state that covers local governments, political subdivisions, or other government entities in the state.

Partner. A company, authorized by the Contract Vendor and approved by the Participating State, to provide marketing, support, or other authorized contract services on behalf of the Contract Vendor in accordance with the terms and conditions of the Contract Vendor's Master Agreement. In the RFP, Partner is the term that is used to call out the many different relationships a manufacturer may have with another company to market their product including, but not limited to agents, subcontractors, partners, fulfillment partners, channel partners, business partners, servicing subcontractor, etc.

Peripherals. A peripheral means any hardware product that can be attached to, added within or networked with personal computers, servers and storage. Peripherals extend the functionality of a computer without modifying the core components of the system. For the purposes of this proposal, peripherals are defined as including accessories. Peripherals may be manufactured by a third party, however, Contract Vendor shall not offer any peripherals manufactured by another Contract Vendor holding a Master Agreement. The Contract Vendors shall provide the warranty service and

maintenance for all peripherals on the Master Agreement. **Examples of peripherals/accessories/options:** Include but are not limited to: printers, monitors, multifunction printers, audiovisual equipment, instructional equipment, cabling, modems, networking to support server, storage and client applications such as routers, switches. Software is an option which must be related to the purchase of equipment and subject to configuration limits. **Third party products are allowed to be offered as peripherals/accessories/options and may be offered in any related band.**

Per Transaction Multiple Unit Discount. A contractual volume discount based on dollars in a single purchase order or combination of purchase orders submitted at one time by a Participating Entity or multiple entities conducting a cooperative purchase.

Premium Savings Packages. Deeply discounted standard configurations available to Purchasing Entities using the Master Agreement. This specification includes a commitment to maintain and upgrade (keep pace with the advance of technology) the standard configurations for a stated period of time or intervals. WSCA-NASPO reserves the right to expand and modify the PSP throughout the life of the contract. See http://www.wnpsp.com/index.html.

Purchasing Entity – means a state, city, county, district, other political subdivision of a State, and a nonprofit organization under the laws of some states if authorized by a Participating Addendum, that issues an order against the Master Agreement and becomes financially committed to the purchase.

Ruggedized. This was band 6 of this solicitation. Ruggedized refers to equipment specifically designed to operate reliably in harsh usage environments and conditions, such as strong vibrations, extreme temperatures and wet or dusty conditions.

Services. Broadly classed as installation/de-installation, maintenance, support, training, migration, and optimization of products offered or supplied under the Master Agreement. These types of services may include, but are not limited to: warranty services, maintenance, installation, de-installation, factory integration (software or equipment components), asset management, recycling/disposal, training and certification, pre-implementation design, disaster recovery planning and support, service desk/helpdesk, and any other directly related technical support service required for the effective operation of a product offered or supplied. Contract Vendors may offer, but participating States and entities do not have to accept, limited professional services related **ONLY** to the equipment and configuration of the equipment purchased through the resulting contracts. EACH PARTICIPATING STATE DETERMINES RESTRICTIONS AND NEGOTIATES TERMS FOR SERVICES.

Server. This is Band 4 of this solicitation. A server is a physical computer dedicated to run one or more services or applications (as a host) to serve the needs of the users of other computers on a network. This band also includes server appliances. Server appliances have their hardware and software preconfigured by the manufacturer. It also includes embedded networking components such as those found in blade chassis systems. Ruggedized equipment may also be included in the Product and Service Schedule for this band.

Storage. This is Band 5 of this solicitation. Storage is hardware with the ability to store large amounts of data. This band includes SAN switching necessary for the proper functioning of the storage environment. Ruggedized equipment may also be included in the Product and Service Schedule for this band.

Storage Area Network. A storage area network (SAN) is a high-speed special-purpose network (or subnetwork) that interconnects different kinds of data storage devices with associated data servers on behalf of a larger network of users.

Storage as a Service (STaaS). An architecture model by which a provider allows a customer to rent or lease storage space on the provider's hardware infrastructure on a subscription basis. E.g., manage onsite or cloud services.

Software. For the purposes of this proposal, software is commercial operating off the shelf machine-readable object code instructions including microcode, firmware and operating system software that are preloaded on equipment. The term "Software" applies to all parts of software and documentation, including new releases, updates, and modifications of software.

Tablet. This is Band 3 of this solicitation. A tablet is a mobile computer that provides a touchscreen which acts as the primary means of control. Tablet band may include notebooks, ultrabooks, and netbooks that are touchscreen capable.

Takeback Program. The Contract Vendor's process for accepting the return of the equipment or other products at the end of life.

Third Party Products. Products sold by the Contract Vendor which are manufactured by another company.

Upgrade. Refers to replacement of existing software, hardware or hardware component with a newer version.

Warranty. The Manufacturers general warranty tied to the product at the time of purchase.

Wide Area Network or **WAN.** A data network that serves users across a broad geographic area and often uses transmission devices provided by common carriers.

WSCA-NASPO. The WSCA-NASPO cooperative purchasing program, facilitated by the WSCA-NASPO Cooperative Purchasing Organization LLC, a 501(c)(3) limited liability company that is a subsidiary organization of the National Association of State Procurement Officials (NASPO). The WSCA-NASPO Cooperative Purchasing Organization facilitates administration of the cooperative group contracting consortium of state chief procurement officials for the benefit of state departments, institutions, agencies, and political subdivisions and other eligible entities (i.e., colleges, school districts, counties, cities, some nonprofit organizations, etc.) for all states and the District of Columbia. The WSCA-NASPO Cooperative Development Team is identified in the Master Agreement as the recipient of reports and may be performing contract administration functions as assigned by the Lead State Contract Administrator.

State Of Minnesota – Affirmative Action Certification

If your contract is or could be in excess of $100,000, complete the information requested below to determine whether you are subject to the Minnesota Human Rights Act (Minnesota Statutes § 363A.36) certification requirement, and to provide documentation of compliance if necessary. **It is your sole responsibility to provide this information and—if required—to obtain Human Rights certification prior to the execution of the contract. The State of Minnesota is under no obligation to delay proceeding with a contract until a company receives Human Rights certification.**

BOX A – For companies which have employed more than 40 full-time employees within Minnesota on any single working day during the previous 12 months. All other companies proceed to BOX B.

Your contract will be rejected unless your business

has a current Certificate of Compliance issued by the Minnesota Department of Human Rights (MDHR)

–or–

has submitted an affirmative action plan to the MDHR, which the Department received prior to the date the contract is due.

Check one of the following statements if you have employed more than 40 full-time employees in Minnesota on any single working day during the previous 12 months:

- ☐ We have a current Certificate of Compliance issued by the MDHR. **Proceed to BOX C. Include a copy of your certificate with your response.**
- ☐ We do not have a current Certificate of Compliance. However, we submitted an Affirmative Action Plan to the MDHR for approval, which the Department received on _____ (date). **Proceed to BOX C.**
- ☐ We do not have a Certificate of Compliance, nor has the MDHR received an Affirmative Action Plan from our company. **We acknowledge that our contract will be rejected. Proceed to BOX C. Contact the Minnesota Department of Human Rights for assistance.** (See below for contact information.)

Please note: Certificates of Compliance must be issued by the Minnesota Department of Human Rights. Affirmative Action Plans approved by the Federal government, a county, or a municipality must still be received, reviewed, and approved by the Minnesota Department of Human Rights before a certificate can be issued.

BOX B – For those companies not described in BOX A.

Check below.

- ☒ We have not employed more than 40 full-time employees on any single working day in Minnesota within the previous 12 months. **Proceed to BOX C.**

BOX C – For all companies.

By signing this statement, you certify that the information provided is accurate and that you are authorized to sign on behalf of the responder. You also certify that you are in compliance with federal affirmative action requirements that may apply to your company. (These requirements are generally triggered only by participating as a prime or subcontractor on federal projects or contracts. Contractors are alerted to these requirements by the federal government.)

Name of Company: Transource Services Corp. DBA Transource Computers Date: 2/11/15

Authorized Signature: Chad Wentz Telephone number: 623-879-8882 ext 32

Printed Name: Chad Wentz Title: HR Manager

For assistance with this form, contact:
Minnesota Department of Human Rights, Compliance Services

Web: http://mn.gov/mdhr
Email: compliance.mdhr@state.mn.us

TC Metro: 651-539-1095 Toll Free: 800-657-3704 TTY: 651-296-1283

Persons with a hearing or speech disability may contact us by dialing 711 or 1.800.627.3529

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 02/09/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Willis of Arizona, Inc.
c/o 26 Century Blvd
P.O. Box 305191
Nashville, TN 372305191 USA

CONTACT NAME:
PHONE (A/C, No, Ext): 1-877-945-7378 FAX (A/C, No): 1-888-467-2378
E-MAIL ADDRESS: certificates@willis.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Atlantic Specialty Insurance Company	27154
INSURER B :	
INSURER C :	
INSURER D :	
INSURER E :	
INSURER F :	

INSURED
Transource Service Corporation
DBA: Transource Computers
2405 W Utopia Rd
Phoenix, AZ 85027

COVERAGES **CERTIFICATE NUMBER:** W767791 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE X OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: X POLICY PRO-JECT LOC OTHER:	Y		711013251-0002	04/15/2014	04/01/2015	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1,000,000 $ 500,000 $ 10,000 $ 1,000,000 $ 2,000,000 $ 2,000,000
	AUTOMOBILE LIABILITY ANY AUTO ALL OWNED AUTOS HIRED AUTOS SCHEDULED AUTOS NON-OWNED AUTOS						COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ $ $ $
	UMBRELLA LIAB OCCUR EXCESS LIAB CLAIMS-MADE DED RETENTION $						EACH OCCURRENCE AGGREGATE	$ $
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		406-04-18-06-0000	04/01/2014	04/01/2015	X PER STATUTE OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ $ 1,000,000 $ 1,000,000 $ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Re: RFP Computer Equipment: (Desktops, Laptops, Tablets, Servers, Storage, Ruggedized Devices including related Peripherals & Services)

State of Minnesota is included as an Additional Insured as respects to General Liability.

General Liability policy shall be Primary and Non-contributory with any other insurance in force for or which may be purchased by Additional Insured.

CERTIFICATE HOLDER

State of Minnesota
Materials Management Division
112 Administration Building
50 Sherburne Avenue
St. Paul, MN 55155

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

ACORD 25 (2014/01)
© 1988-2014 ACORD CORPORATION. All rights reserved.
The ACORD name and logo are registered marks of ACORD
SR ID:8417914 BATCH:Batch #: 114193

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

@VANTAGE FOR GENERAL LIABILITY TECHNOLOGY COMPANIES

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

The following schedule lists the coverage extensions provided by this endorsement. Refer to the individual provisions to determine the extent of your coverage.

SCHEDULE OF COVERAGE EXTENSIONS	
1. Additional Insured – Broad Form Vendors	8. Coverage Territory – Worldwide
2. Additional Insured – by Contract, Agreement or Permit relating to:	9. Duties in Event of Occurrence, Claim or Suit
o Work performed by you	10. Expected or Intended Injury (PD)
o Premises you own, rent, lease or occupy	11. Incidental Medical Malpractice
o Equipment you lease	12. Medical Payments
3. Aggregate Limit Per Location	13. Mobile Equipment Redefined
4. Blanket Waiver of Subrogation	14. Newly Acquired or Formed Organizations
5. Bodily Injury Redefined – Mental Anguish	15. Non-Owned Aircraft
6. Broadened Named Insured	16. Non-Owned Watercraft
7. Broadened Property Damage	17. Personal and Advertising Injury
o Borrowed Equipment	18. Product Recall Expense
o Customers' Goods	19. Supplementary Payments Increased Limits
o Use of Elevators	

1. ADDITIONAL INSURED – BROAD FORM VENDORS

Section II – Who Is An Insured is amended to include as an additional insured any person(s) or organization(s) (referred to below as vendor) with whom you agreed in a written contract or agreement to provide insurance, but only with respect to "bodily injury" or "property damage" arising out of "your products" which are distributed or sold in the regular course of the vendor's business, subject to the following additional exclusions:

a. This provision 1. does not apply to:

(1) "Bodily injury" or "property damage" for which the vendor is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the vendor would have in the absence of the contract or agreement;

(2) Any express warranty not authorized by you;

(3) Any physical or chemical change in the product made intentionally by the vendor;

(4) Repackaging, except when unpacked solely for the purpose of inspection, demonstration, testing or the substitution of parts under instructions from the manufacturer, and then repackaged in the original container;

(5) Any failure to make such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products;

(6) Demonstration, installation, servicing or repair operations, except such operations performed at the vendor's premises in connection with the sale of the product;

(7) Products which, after distribution or sale by you, have been labeled or relabeled or used as a container, part or ingredient of any other thing or substance by or for the vendor; or

(8) "Bodily injury" or "property damage" arising out of the sole negligence of the vendor for its own acts or omissions or those of its employees or anyone else acting on its behalf. However, this exclusion does not apply to:

(a) The exceptions contained in Subparagraphs **4.** or **6.**; or

Includes copyrighted material of Insurance Services Office, Inc.
Copyright 2009,

(b) Such inspections, adjustments, tests or servicing as the vendor has agreed to make or normally undertakes to make in the usual course of business, in connection with the distribution or sale of the products.

(9) Any vendor, person or organization if the "products-completed operations hazard" is excluded either by the provisions of the Coverage Form or by endorsement.

b. This insurance does not apply to any insured person or organization, from whom you have acquired such products, or any ingredient, part or container, entering into, accompanying or containing such products.

2. ADDITIONAL INSURED – CONTRACT, AGREEMENT OR PERMIT

a. **Section II – Who Is An Insured** is amended to include as an additional insured any person(s) or organization(s) with whom you agreed in a written contract, written agreement or permit to provide insurance such as is afforded under this Coverage Part, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

1. In the performance of "your work" for the additional insured(s) at the location designated in the contract, agreement or permit; or
2. In the maintenance, operation or use of equipment leased to you by such person(s) or organization(s), or
3. In connection with premises you own, rent, lease or occupy.

This insurance applies on a primary or primary and non-contributory basis if that is required in writing by the contract, agreement or permit.

b. The insurance provided to the additional insured herein is limited. This insurance does not apply:

1. Unless
   (a) the written contract, agreement or permit is currently in effect or becomes effective during the term of this policy; and
   (b) the contract or agreement was executed or permit issued prior to the "bodily injury", "property damage", or "personal and advertising injury";
2. To any person or organization included as an insured under the Additional Insured - Broad Form Vendors provision of this endorsement;
3. To any person or organization included as an insured by an endorsement issued by us and made part of this Coverage Part;
4. To any person or organization if the "bodily injury", "property damage", or "personal and advertising injury" arises out of the rendering of or failure to render any professional architectural, engineering or surveying services by or for you including:
   (a) The preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or
   (b) Supervisory, inspection, architectural or engineering activities.
5. To any:
   (a) Lessor of equipment after the equipment lease terminates or expires; or
   (b) Owners or other interests from whom land has been leased; or
   (c) Managers or lessors of premises if:
      (1) The "occurrence" takes place after you cease to be a tenant in that premises; or
      (2) The "bodily injury", "property damage", "personal and advertising injury" arises out of structural alterations, new construction or demolition operations performed by or on behalf of the manager or lessor.
6. To "bodily injury, or "property damage" occurring after:
   (a) All work on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured at the site of the covered operations has been completed; or
   (b) That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as part of the same project.

Includes copyrighted material of Insurance Services Office, Inc.
Copyright 2009,

c. **Limits of Insurance** applicable to the additional insured are those specified in the contract, agreement or permit or in the Declarations of this policy, whichever is less, and fix the most we will pay regardless of the number of:

1. Insureds;
2. Claims made or "suits" brought; or
3. Persons or organizations making claims or bringing "suits".

These Limits of Insurance are inclusive of and not in addition to the Limits of Insurance shown in the Declarations.

3. AGGREGATE LIMIT PER LOCATION

a. Under **Section III – Limits of Insurance,** the General Aggregate Limit applies separately to each of your "locations" owned by or rented or leased to you.

b. Under **Section V – Definitions,** the following definition is added:

"Location" means premises involving the same or connecting lots, or premises whose connection is interrupted only by a street, roadway, waterway or right-of-way of a railroad.

4. BLANKET WAIVER OF SUBROGATION

Section IV – Transfer of Rights of Recovery Against Others to Us Condition is amended to add the following:

We will waive any right of recovery we may have against any person or organization because of payments we make for injury or damage arising out of your ongoing operations done under a written contract or agreement with that person or organization and included in "your work" or the "products-completed operations hazard". This waiver applies only to persons or organizations with whom you have a written contract, executed prior to the "bodily injury" or "property damage", that requires you to waive your rights of recovery.

5. BODILY INJURY REDEFINED – MENTAL ANGUISH

Under **Section V**, the definition of "bodily injury" is replaced by the following:

"Bodily injury" means bodily injury, sickness, or disease sustained by a person, including mental anguish or death resulting from any of these at any time.

6. BROADENED NAMED INSURED

Section II – Who Is An Insured is amended to include as an insured the following:

Any organization which is a legally incorporated entity in which you own a financial interest of more than 50 percent of the voting stock on the effective date of this endorsement will be a Named Insured until the 180th day or the end of the policy period, whichever comes first, provided there is no other similar insurance available to that organization.

The insurance afforded herein does not apply to any entity which is also an insured under another policy or would be an insured under such policy but for its termination or the exhaustion of its limits of insurance.

7. BROADENED PROPERTY DAMAGE – BORROWED EQUIPMENT, CUSTOMERS' GOODS AND USE OF ELEVATORS

The insurance for "property damage" liability is subject to the following:

a. The **Damage To Property** exclusion under **Section I Coverage A** is amended as follows:

1. The exclusion for personal property in the care, custody or control of the insured does not apply to "property damage" to equipment you borrow while at a job site and provided it is not being used by anyone to perform operations at the time of loss.
2. The exclusions for

(a) Property loaned to you;

(b) Personal property in the care, custody or control of the insured; and

(c) That particular part of any property that must be restored, repaired or replaced because "your work" was incorrectly performed on it

do not apply to "property damage" to "customers' goods" while on your premises nor do they apply to "property damage" arising from the use of elevators at premises you own, rent, lease or occupy.

Subject to the Each Occurrence Limit, the most we will pay for "property damage" to "Customers' Goods" is $35,000 per "occurrence".

Includes copyrighted material of Insurance Services Office, Inc.
Copyright 2009, !!!!

b. Under **Section V – Definitions,** the following definition is added:

"Customers' Goods" means goods of your customer on your premises for the purpose of being:

1. Repaired; or
2. Used in your manufacturing process.

c. The insurance afforded by this provision is excess over any other valid and collectible property insurance (including any deductible) available to the insured whether such insurance is primary, excess, contingent or on any other basis. Any payments by us will follow the Other Insurance – Excess provisions in the COMMERCIAL GENERAL LIABILITY CONDITIONS.

8. COVERAGE TERRITORY – WORLDWIDE

The definition of "coverage territory" is replaced by the following:

"Coverage territory" means anywhere provided the insured's responsibility to pay damages must be determined in a settlement we agree to or in a "suit" on the merits brought within the United States of America (including its territories and possessions), Puerto Rico or Canada.

9. DUTIES IN THE EVENT OF OCCURRENCE, OFFENSE, CLAIM OR SUIT

Section IV – Duties In The Event Of Occurrence, Claim or Suit is amended by adding the following paragraphs:

a. The requirements that you must

1. notify us of an "occurrence" offense, claim or "suit" and
2. send us documents concerning a claim or "suit"

apply only when such "accident" claim, "suit" or "loss" is known to:

1. You, if you are an individual;
2. A partner, if you are a partnership;
3. An executive officer of the corporation or insurance manager, if you are a corporation; or
4. A manager, if you are a limited liability company.

b. The requirement that you must notify us as soon as practicable of an "occurrence" or an offense that may result in a claim does not apply if you report an "occurrence" to your workers compensation insurer which later develops into a liability claim for which coverage is provided by this policy. However, as soon as you have definite knowledge that the particular "occurrence" is a liability claim rather than a workers compensation claim, you must comply with the **Duties In The Event Of Occurrence, Offense, Claim Or Suit Condition.**

10. EXPECTED OR INTENDED INJURY (PROPERTY DAMAGE)

The **Expected Or Intended Injury** exclusion under **Coverage A Bodily Injury and Property Damage** is replaced by:

"Bodily injury" or "property damage" expected or intended from the standpoint of the insured. This exclusion does not apply to "bodily injury" or "property damage" resulting from the use of reasonable force to protect persons or property.

11. INCIDENTAL MALPRACTICE – EMPLOYED PHYSICIANS, NURSES, EMT'S AND PARAMEDICS

a. Under **Section II – Who Is An Insured,** the paragraph that excludes an employee or volunteer worker as insured for "bodily injury" or "personal and advertising injury" arising out of his or her providing or failing to provide professional health care services does not apply to a physician, dentist, nurse, emergency medical technician or paramedic employed by you if you are not engaged in the business or occupation of providing medical, paramedical, surgical, dental, x-ray or nursing services.

b. The insurance afforded by this provision is excess over any other valid and collectible insurance whether such insurance is primary, excess, contingent or on any other basis. Any payments by us will follow the Other Insurance – Excess Insurance provisions in the COMMERCIAL GENERAL LIABILITY CONDITIONS.

12. MEDICAL PAYMENTS – INCREASED LIMITS AND TIME PERIOD

In the Insuring Agreement under Coverage **C – Medical Payments**, the requirement that expenses are incurred and reported to us within one year of the date of the accident is changed to three years.

a. The Medical Expense Limit is $15,000 per person or the amount shown in the Declarations as the Medical Expense Limit, whichever is greater.

b. This provision **12.** does not apply if Coverage **C – Medical Payments** is otherwise excluded either by the provisions of the Coverage Form or by endorsement.

Includes copyrighted material of Insurance Services Office, Inc.
Copyright 2009, !!!!

13. MOBILE EQUIPMENT – SELF-PROPELLED SNOW REMOVAL, ROAD MAINTENANCE AND STREET CLEANING EQUIPMENT

The following is added to the "mobile equipment" definition:

Vehicles maintained primarily for purposes other than the transportation of persons or cargo that are self-propelled vehicles of less than 1,000 pounds gross vehicle weight with the following types of permanently attached equipment will be considered "mobile equipment":

a. Snow removal;

b. Road maintenance, but not construction or resurfacing; or

c. Street cleaning.

14. NEWLY FORMED OR ACQUIRED ORGANIZATIONS

Under **Section II – Who Is An Insured**, the time period limitation for newly acquired or formed organizations is replaced by:

Coverage under this provision is afforded only until the end of the current policy period.

15. NON-OWNED AIRCRAFT

The **Aircraft, Auto Or Watercraft** exclusion under Coverage **A Bodily Injury And Property Damage Liability** does not apply to an aircraft that is:

1. Hired, chartered or loaned with a paid crew; and

2. Not owned by any insured.

a. The insurance afforded by this provision **15.** is excess over any other valid and collectible insurance (including any deductible or Self Insured Retention) available to the insured, whether such insurance is primary, excess, contingent or on any other basis. Any payments by us will follow the Other Insurance - Excess Insurance provisions in the COMMERCIAL GENERAL LIABILITY CONDITIONS.

16. NON-OWNED WATERCRAFT

a. **Section II – Who Is An Insured** is amended to include as an insured for any watercraft that is covered by this policy, any person who, with your expressed or implied consent, either uses or is responsible for the use of a watercraft. However, no person or organization is an insured with respect to:

1. "Bodily injury" to a co-"employee" of the person operating the watercraft; or

2. "Property damage" to property owned by, rented to, in the charge of or occupied by you or the employer of any person who is an insured under this provision.

b. In the exception to the **Aircraft, Auto Or Watercraft** exclusion under **Coverage A Bodily Injury And Property Damage Liability**, the limitation on the length of a watercraft is increased to 55 feet.

c. The insurance afforded by this provision **16.** is excess over any other valid and collectible insurance (including any deductible or Self Insured Retention) available to the insured, whether such insurance is primary, excess, contingent or on any other basis. Any payments by us will follow the Other Insurance - Excess Insurance provisions in the COMMERCIAL GENERAL LIABILITY CONDITIONS.

17. PERSONAL AND ADVERTISING INJURY

The following exclusions under the definition of "personal and advertising injury" are amended as follows:

a. Insureds In Media Type Businesses

"Personal and advertising injury" committed by an insured whose business is:

(1) Advertising, broadcasting, publishing or telecasting; or

(2) Designing or developing content of websites for others.

However, this exclusion does not apply to paragraphs **14 a., b. and c.** of "personal and advertising injury" under the Definitions Section.

For the purposes of this exclusion, the placing of frames, borders or links, or advertising, for you is not by itself, considered the business of advertising, broadcasting, publishing or telecasting.

b. Electronic Chatrooms Or Bulletin Boards

"Personal and advertising injury" arising out of an electronic chatroom or bulletin board the insured hosts, owns, or maintains for others.

Includes copyrighted material of Insurance Services Office, Inc.
Copyright 2009, !!!!

18. PRODUCT RECALL EXPENSE

With respect to this Provision **18.**, the **Recall Of Products, Work Or Impaired Property** exclusion under **Coverage A Bodily Injury And Property Damage Liability** is deleted.

a. The following is added to **Section III - Limits Of Insurance** section:

1. The Limits of Insurance shown in the Product Recall Schedule and rules below fix the most we will pay regardless of the number of
   (a) Insureds;
   (b) "Covered recalls" initiated; or
   (c) Number of "your products" recalled.
2. The Product Recall Aggregate Limit is the most we will reimburse you for the sum of all "product recall expenses" incurred for all "covered recalls" initiated during the policy period.
3. Subject to **2.** above, the Each Product Recall Limit is the most we will reimburse you for the sum of all "product recall expenses" arising out of any one "covered recall" for the same defect or deficiency.
4. Subject to **3.** above, we will pay only the amount of "product recall expenses" in excess of the deductible amount shown in the Product Recall Schedule.

Products Recall Schedule	
	Limits of Insurance
Product Recall Aggregate Limit	$50,000
Each Product Recall Limit	$25,000
Each Product Recall Deductible	$1,000

If any limits and deductible other than those above are shown in the Declarations as the Products Recall Expense Limits, the amounts shown in the Declarations will replace the Limits of Insurance and deductible provided for this coverage.

The Limits of Insurance for this coverage apply separately to each consecutive annual period and to any remaining period of less than 12 months, starting with the beginning of the policy period shown in the Declarations, unless the policy period is extended after issuance for an additional period of less than 12 months. In that case, the additional period will be deemed part of the last preceding period for the purposes of determining the Limits of Insurance.

b. The following is added to the **Duties In The Event Of Occurrence, Offense, Claim Or Suit** provision under **Section IV – Conditions:**

You must see to it that the following are done in the event of an actual or anticipated "covered recall" that may result in "product recall expense":

1. Give us prompt notice of any discovery or notification that "your product" must be withdrawn or recalled. Include a description of "your product" and the reason for the withdrawal or recall;
2. Cease any further release, shipment, consignment or any other method of distribution of like or similar products until it has been determined that all such products are free from defects that could be a cause of loss under this insurance;
3. As often as may be reasonably required, permit us to inspect "your product" that demonstrates the need for the "covered recall" and permit us to examine your books and records. Also permit us to take damaged and undamaged samples of "your products" for inspection, testing and analysis; and permit us to make copies from your books and records;
4. Send us a signed, sworn, proof of loss containing the information we requested to settle the claim. You must do this within 60 days after our request. We will supply you with the necessary forms; and
5. Permit us to examine any insured under oath, while not in the presence of any other insured and at such times as may reasonably be required, about any matter relating to this insurance or your claim, including an insured's books and records. In the event of an examination, an insured's answers must be signed.

Includes copyrighted material of Insurance Services Office, Inc.
Copyright 2009, !!!!

c. The following definitions are added to the Definitions Section:

1. "Covered recall" means a recall made necessary because the insured or a government body has determined that a known or suspected defect, deficiency, inadequacy or dangerous condition in "your product" has resulted in or will result in "bodily injury" or "property damage".

2. "Product Recall Expense" means:

(a) The following necessary and reasonable expenses you incur exclusively for the purpose of recalling "your product":

(1) For communications, including radio or television announcements or printed advertisements including stationery, envelopes and postage;

(2) For shipping the recalled products from any purchaser, distributor or user to the place or places designated by you;

(3) For remuneration paid to your regular "employees" for necessary overtime;

(4) For hiring additional persons, other than your regular "employees";

(5) Incurred by "employees", including transportation and accommodations;

(6) To rent additional warehouse or storage space; or

(7) For disposal of "your products", but only to the extent that specific methods of destruction other than those employed for trash discarding or disposal are required to avoid "bodily injury" or "property damage" as a result of such disposal, but

"product recall expenses" does not include costs of regaining your market share, goodwill, revenue or profit.

(b) "Product Recall Expense" does not include any expenses resulting from:

(1) Failure of any product to accomplish its intended purpose;

(2) Breach of warranties of fitness, quality, durability or performance;

(3) Loss of customer approval, or any cost incurred to regain customer approval;

(4) Redistribution or replacement of "your product" which has been recalled by like products or substitutes;

(5) Caprice or whim of the insured;

(6) A condition likely to cause loss of which any insured knew or had reason to know at the inception of this insurance; and

(7) Recall of "your products" that have no known or suspected defect solely because a known or suspected defect in another of "your products" has been found

19. SUPPLEMENTARY PAYMENTS – INCREASED LIMITS

Under Section I – **Coverages, Supplementary Payments – Coverages A and B**, paragraphs **1.b.** and **1.d.** are replaced by the following:

b. Up to $2,500 for cost of bail bonds required because of accidents or traffic law violations arising out of the use of any vehicle to which the Bodily Injury Liability Coverage applies. We do not have to furnish these bonds.

d. All reasonable expenses incurred by the insured at our request to assist us in the investigation or defense of the claim or "suit", including actual loss of earnings up to $500 a day because of time off from work.

Includes copyrighted material of Insurance Services Office, Inc.
Copyright 2009,

COMMON POLICY CONDITIONS

All coverages of this policy are subject to the following conditions.

A. Cancellation

1. The first Named Insured shown in the Declarations may cancel this policy by mailing or delivering to us advance written notice of cancellation.
2. We may cancel this policy by mailing or delivering to the first Named Insured written notice of cancellation at least:
   a. 10 days before the effective date of cancellation if we cancel for nonpayment of premium; or
   b. 30 days before the effective date of cancellation if we cancel for any other reason.
3. We will mail or deliver our notice to the first Named Insured's last mailing address known to us.
4. Notice of cancellation will state the effective date of cancellation. The policy period will end on that date.
5. If this policy is cancelled, we will send the first Named Insured any premium refund due. If we cancel, the refund will be pro rata. If the first Named Insured cancels, the refund may be less than pro rata. The cancellation will be effective even if we have not made or offered a refund.
6. If notice is mailed, proof of mailing will be sufficient proof of notice.

B. When We Do Not Renew

If we decide not to renew this Coverage Part, we will mail or deliver to the first Named Insured shown in the Declarations written notice of the nonrenewal not less than 45 days before the expiration date.

If notice is mailed, proof of mailing will be sufficient proof of notice.

C. Changes

This policy contains all the agreements between you and us concerning the insurance afforded. The first Named Insured shown in the Declarations is authorized to make changes in the terms of this policy with our consent. This policy's terms can be amended or waived only by endorsement issued by us and made a part of this policy.

D. Concealment, Misrepresentation or Fraud

This policy is void in any case of fraud by you as it relates to this policy at any time. It is also void if you or any other insured, at any time, intentionally conceal or misrepresent a material fact concerning:

1. This policy;
2. The Covered Property;
3. Your interest in the Covered Property; or
4. A claim under this policy.

E. Examination of Your Books and Records

We may examine and audit your books and records as they relate to this policy at any time during the policy period and up to three years afterward.

F. Inspections and Surveys

We have the right but are not obligated to:

1. Make inspections and surveys at any time;
2. Give you reports on the conditions we find; and
3. Recommend changes.

Any inspections, surveys, reports or recommendations relate only to insurability and the premiums to be charged. We do not make safety inspections. We do not undertake to perform the duty of any person or organization to provide for the health or safety of workers or the public. And we do not warrant that conditions:

1. Are safe or healthful; or
2. Comply with laws, regulations, codes or standards.

This condition applies not only to us, but also to any rating, advisory, rate service or similar organization which makes insurance inspections, surveys, reports or recommendations.

Includes copyrighted material of Insurance Services Office, Inc.
Copyright 2004, !!!!

G. Liberalization

If we adopt any revision that would broaden the coverage under this policy without additional premium within 45 days prior to or during the policy period, the broadened coverage will immediately apply to this policy.

H. Premiums

1. All Named Insureds shown in the Declarations are jointly and severally liable and responsible for the payment of all premiums.
2. The first Named Insured shown in the Declarations will be the payee of any return premiums we pay.

I. Premium Audit

1. This policy is subject to audit if a premium designated as an advance premium is shown in the Declarations. We will compute the final premium due when we determine your actual exposures.
2. Premium shown in this policy as advance premium is a deposit premium only. At the close of each audit period we will compute the earned premium for that period. Audit premiums are due and payable on notice to the first Named Insured. If the sum of the advance and audit premiums paid for the policy period is greater than the earned premium, we will return the excess to the first Named Insured.
3. The first Named Insured must keep records of the information we need for premium computation, and send us copies at such times as we may request.

J. Transfer of Your Rights and Duties Under This Policy

Your rights and duties under this policy may not be transferred without our written consent except in the case of death of an individual Named Insured.

If you die, your rights and duties will be transferred to your legal representative but only while acting within the scope of duties as your legal representative. Until your legal representative is appointed, anyone having proper temporary custody of your property will have your rights and duties but only with respect to that property.

K. Unintentional Errors or Omissions

Your failure to disclose all hazards existing as of the inception date of the policy shall not prejudice you with respect to the coverage afforded by this policy, provided such failure or omission is not intentional. However, this provision does not affect our right to collect additional premium or exercise our right of cancellation or nonrenewal.

Includes copyrighted material of Insurance Services Office, Inc.
Copyright 2004, !!!!

Skip to Main Content

Department of Management Services

Florida Department of Management Services > Business Operations > State Purchasing > Vendor Information > State Contracts and Agreements > Alternate Contract Source > Computer Equipment, Peripherals & Services

<< Return

Computer Equipment, Peripherals & Services43211500-WSCA-15-ACS

Contract Details

Effective Period	09/30/2015 through 03/31/2020
Contract Type	Alternate Contract Source
Contract Information	How to Use this Alternate Contract Source Products Categories List • Contractors • Pricing
Contract Documents	Forms and Other Information Amendments and Memorandums Master Agreements Participating Addenda
Contract Administration	• Christopher McMullen (850) 922-9867 • christopher.mcmullen@dms.myflorida.com
Commodity Codes	UNSPSC-43211500, UNSPSC-43211600, UNSPSC-43211900

Description

This alternate contract source (ACS) authorizes the use of the National Association of State Procurement Officials' ValuePoint Program (NASPO ValuePoint) Computer Equipment, Peripherals and Services contract, which was competitively solicited and awarded by the State of Minnesota.

Benefits

- This contract is available only for products not on state term contracts.
- WSCA participating addendums are entered on behalf of governmental entities in Florida for Ace, Apple, ByteSpeed, Ciara, Cisco, Computer Technology Link, Dell, EMC, Firefly, Fujitsu, HP Inc., HP Enterprise, Hitachi, Howard, IBM, Lenovo, M&A Technology, Microsoft, Microtech, NetApp, Nimble, Panasonic, Pure Storage, Samsung, Tegile, Tintri, Transource, and Xiotech.

Information Found on the Florida DMS website,
http://www.dms.myflorida.com/business_operations/state_purchasing/vendor_information/state_contracts_and_agreements/alternate_contract_source/computer_equipment_peripherals_services/contractors/contractors_transource

Transource

CBE Code	Florida Climate Friendly Preferred Products	Recycled Products	Utilizes Authorized Resellers	Coverage Area
A - Non-Minority	No	No	No	Statewide

Contact Information	
Vendor:	Transource Services Corporation
FL Minority Business Designation:	A – Non-Minority
Vendor FEIN:	86-0490887
Contacts:	Curtis Wescott
Title:	NASPO ValuePoint Contract Manager
Street Address:	2405 W. Utopia Rd. Phoenix, AZ 85027
Phone Number:	623-879-8882, ext. 124
Email Address:	curtisw@transcource.com
Ordering Information	
Contact Name:	Barb Sullivan
Title:	Sr. Account Manager
Address:	2405 W. Utopia Rd. Phoenix, AZ 85027
Phone Number:	623-879-8882, ext. 129
Toll Free Number:	800-486-3715, ext. 129
Ordering Fax Numbers:	623-879-8887
Remit Address:	2405 W. Utopia Rd Phoenix, AZ 85027

Transource Services Corp
2405 W. Utopia Road
Phoenix, AZ 85027

SALES QUOTATION Amended

Quotation No.: 285789
Quotation Date: 10/17/17
Due Date: 11/17/17
Customer No.: C890637
Customer Ref. No.:
Page No.: Page 1 of 2

BILL TO	SHIP TO
City of Boynton Beach 100 E Boynton Beach Blvd Boynton Beach FL 33425	**City of Boynton Beach** 100 E Boynton Beach Blvd Boynton Beach FL 33425

Account Rep: Barb Sullivan
Contact Name:
Terms: Net 30
Ship Via:
FOB: FOB Destination

Line	Item No.	Description	Qty	Unit Price	Total
1	NVP	NASPO ValuePoint MPA# MNWNC-130	1		
2	NVP-FL	State of Florida PA# 43211500-WSCA-15-ACS	1		
3	D12X4001 MFR# D12X4	Datrium DVX NetShelf, 12 Bay 4TB	2	$ 23,354.04	$ 46,708.08
4	TSC-ITEM MFR# CN2000SYS2	DATRIUM DVX COMPUTE NODE 2000, 1U, 2S, 128GB, 2X E5-2620 V4,	2	$ 12,771.12	$ 25,542.24
5	TSC-ITEM MFR# OPTCNRAM128GB1	OPTION, DVX CN, MEMORY UPGRADE, 32GB DIMMS (SET OF 4)	2	$ 1,628.20	$ 3,256.40
6	TSC-ITEM MFR# OPTCNSSD1920GB1	OPTION, DVX CN, CACHE SSD 1.92TB W/ SLED	2	$ 1,833.30	$ 3,666.60
7	TSC-ITEM MFR# OPTCN10GNICS1	OPTION, DVX CN, 2-PORT 10G SFP+NETWORK INTERFACE CARD	2	$ 553.50	$ 1,107.00
8	TSC-ITEM MFR# CN2000SYS2	DATRIUM DVX COMPUTE NODE 2000, 1U, 2S, 128GB, 2X E5-2620 V4,	2	$ 12,771.12	$ 25,542.24
9	TSC-ITEM MFR# OPTCNRAM128GB1	OPTION, DVX CN, MEMORY UPGRADE, 32GB DIMMS (SET OF 4)	2	$ 1,628.20	$ 3,256.40
10	TSC-ITEM MFR# OPTCNSSD1920GB1	OPTION, DVX CN, CACHE SSD 1.92TB W/ SLED	2	$ 1,833.30	$ 3,666.60
11	TSC-ITEM MFR# OPTCN10GNICS1	OPTION, DVX CN, 2-PORT 10G SFP+NETWORK INTERFACE CARD	2	$ 553.50	$ 1,107.00
12	D12X4001 MFR# D12X4	Datrium DVX NetShelf, 12 Bay 4TB	1	$ 23,354.04	$ 23,354.04
13	TSC-ITEM MFR# 540BBGSAX	10GBS 2PT SFP+ PCIE X8 NIC CARD 540-BBGS	4		
14	TSC-ITEM MFR# LICHOSTSW1	DATRIUM DVX HOST SOFTWARE, SINGLE HOST LICENSE	8	$ 2,981.37	$ 23,850.96

Transource Services Corp
2405 W. Utopia Road
Phoenix, AZ 85027

SALES QUOTATION Amended

Quotation No.: 285789
Quotation Date: 10/17/17
Due Date: 11/17/17
Customer No.: C890637
Customer Ref. No.:
Page No.: Page 2 of 2

Line	Item No.	Description	Qty	Unit Price	Total
15		SUPPORT			
16	TSC-LABOR MFR# SUPD12X4PREM1MO	1MNTH PREM SPPT, 4HR HW, 24X7 SW, D12X4	24	$ 675.00	$ 16,200.00
17	TSC-LABOR MFR# SUPCN2000PREM1MO	SUPPORT, PREMIUM, 4HR HW, 24X7 SW, CN2000, 1 MONTH	24	$ 75.60	$ 1,814.40
18	TSC-LABOR MFR# SUPCN2000NBD1MO	SUPPORT, NBD HW, 24X7 SW, CN2000, 1 MONTH	24	$ 58.50	$ 1,404.00
19	TSC-LABOR MFR# SUPD12X4NBD1MO	SUPPORT, NBD HW, 24X7 SW, D12X4, 1 MONTH	12	$ 487.80	$ 5,853.60

SBA certified "American Small Manufacturer"

Subtotal	$ 186,329.56
Shipping	
Tax	
Total Order Value	**$ 186,329.56**

Remarks: PT

PART #	BAND	CATEGORY	MANUFAC
D12X4	5	71151106	Datrium
CN2000-SYS-1	5	71151106	Datrium
OPT-CN-RAM-128GB-1	5	71151106	Datrium
OPT-CN-SSD-1920GB-1	5	71151106	Datrium
OPT-CN-10G-NIC-S-1	5	71151106	Datrium
SUP-D12X4-PREM-1MO	5	Services	Datrium
SUP-CN2000-NBD-1MO	5	Services	Datrium
LIC-HOST-SW-1	5	71151106	Datrium
SUP-CN2000-PREM-1MO	5	Services	Datrium
SUP-D12X4-NBD-1MO	5	Services	Datrium

The Pricing below was found in the Excel spreadsheet "NASP 2017_0426 PSS TRANSCOURCE.
"http://www.transource.com/customers/NASPO_2015/default.as

DESCRIPTION	BASE LIST PRICI	NASPO PRICE
Datrium DVX NetShelf, 12 Bay 4TB	$ 125,000.00	112,500.00
Datrium DVX Compute Node 2000, 1U, 2S, 128GB, 2x E5-2680 v4,28C,	$ 15,286.00	13,757.40
Option, DVX CN, Memory Upgrade, 32GB DIMMs (set of 4)	$ 1,935.00	1,741.50
Option, DVX CN, Cache SSD 1.92TB w/ Sled	$ 2,037.00	1,833.30
Option, DVX CN, 2-port 10G SFP+ network interface card	$ 615.00	553.50
Support, Premium, 4HR HW, 24X7 SW, D12X4, 1 Month	$750.00	$675.00
Support, NBD HW, 24x7 SW, CN2000, 1 Month	$65.00	$58.50
Datrium DVX Host Software, single host license	$ 12,000.00	10,800.00
Support, Premium, 4HR HW, 24X7 SW, CN2000, 1 Month	$84.00	$75.60
Support, NBD HW, 24x7 SW, D12X4, 1 Month	$542.00	$487.80

Micron S650DC 1600GB

SFF Small Form Factor Caddy w/screws

Axiom Dual 10Gb SFP+ Network Cards

xlsx" found on the web page
p"

NASPO MINIMUM DISCOUNT	Third Party	A = ADELETE = DPRICE REDUCED = R
10.00%	Y	A
10.00%	Y	A
10.00%	Y	A
10.00%	Y	A
10.00%	Y	A
10.00%	Y	A
10.00%	Y	A
10.00%	Y	A
10.00%	Y	A
10.00%	Y	A

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
Authorize utilizing the State of Florida Alternate Contract #43220000-WSCA-14-ACS for the purchase of Avaya network infrastructure equipment from STEPcg in the amount of $64,735.52. The City is allowed to purchase from State of Florida Contracts.

EXPLANATION OF REQUEST:
Contract Period: September 8, 2014 - May 30, 2019
Server/Storage/Disaster Recovery project
The I.T.S. Department and Utilities Department have Capital projects to replace servers, storage, and network equipment for the City's three datacenters. After viewing demos from Datrium DVX, Dell EMC VxRail, HPE Simplivity, Nutanix, and Scale Computing, the ITS Network Team selected Datrium DVX based on a combination of pricing and features. The Datrium DVS solution, when implemented in all three City datacenters, will fulfill the original intent of the separate C.I.P items. Datrium DVX requires 10GB network connectivity to function properly.
The current network switches in the Utilities Datacenter and the Cities Disaster Recovery Datacenter only support 1GB network connectivity. This purchase will provide redundant 10GB switch in the Fire Station #5 and Utilities datacenters and a standalone 10GB switch in the City's Disaster Recovery Datacenter.
This purchase is partially funded by Local Government Surtax Funds.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
The replacement of the current network switches is a prerequisite for the Datrium open-converged server solution being installed at Fire Station #5, Utilities, and the Disaster Recovery Site. The network switch upgrade is required because the old network switch gear only supports 1GB bandwidth throughput. The new switch gear will provide 10GB bandwidth throughput.

FISCAL IMPACT: Budgeted
Funding has been approved during this year's capital improvement plan budget from three CIP projects;

- VSP7000 Switch - Datacenter (Account # 303-4101-580.64-15 - CIP Project # IT1814) in the amount of $20,000.
- Exagrid Backup Appliance (Account # 303-4101-580.64-15 - CIP Project # IT21805) in the amount of $16,268.26.
- Utilities SAN Replacement (Account # 403-5000-536.31-90 - CIP Project # US1801) in the amount of $28,467.26.

ALTERNATIVES:
Remain with the current network switch gear and end-of-life servers and S.A.N infrastructure.
Not approve this purchase and issue a Bid for the purchase.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Other	Avaya NASPO Information
Addendum	Contract Addendum
Agreement	NASPO - Avaya Master Agreement
Quotes	STEPcg Quote
Other	NASPO - Avaya Price List

Information found at the URL listed below

http://www.dms.myflorida.com/business_operations/state_purchasing/vendor_information/state_contracts_and_agreements/alternate_contract_source/data_communications_products_services

Data Communications Products & Services
43220000-WSCA-14-ACS

Effective Period	09/08/2014 through 05/30/2019
Contract Type	Alternate Contract Source
Contract Information	Pricing Product Categories List Contractors Contractors by Category How to Use this Contract Frequently Asked Questions
Contract Documents	Participating Addenda Master Agreements Amendments and Memorandums Forms and Other Information
Contract Administration	Rachel Hardwick 850-922-1214 rachel.hardwick@dms.myflorida.com
Commodity Codes	UNSPSC-43220000, UNSPSC-43190000, UNSPSC-43201800, UNSPSC-43210000, UNSPSC-43221500, UNSPSC-43211512, UNSPSC-43211600, UNSPSC-43211604, UNSPSC-43211700, UNSPSC-43212200, UNSPSC-43220000, UNSPSC-43221700, UNSPSC-43222600, UNSPSC-43222800, UNSPSC-43230000, UNSPSC-43232300, UNSPSC-43232400, UNSPSC-43232700, UNSPSC-43232800, UNSPSC-43232900, UNSPSC-43233000, UNSPSC-43233200, UNSPSC-43233500

Avaya Inc.

CBE Code	Florida Climate Friendly Preferred Products	Recycled Products	Utilizes Authorized Resellers	Coverage Area
A - Non-Minority	No	No	Yes	Statewide

Ordering Instructions

Vendor: Avaya Inc.

Vendor Tax ID Number: F223713430002

Ordering Information

Name: Allen Ginder

Title: RSL South

Street Address or P.O. Box:

city, State, Zip: Santa Clara, CA 95054-1233

Email Address: allengi@avaya.com

Phone Number: +1 (786) 331-0765

Federal ID Number: F223713430002

Remit to Address: 4655 Great American Parkway

City, State, Zip: Santa Clara, CA 95054-1233

Contract Administrator:

Name: Allen Ginder

Title: RSL South

Street Address or P.O. Box: 4655 Great American Parkway

City, State, Zip: Santa Clara, CA 95054-1233

Email Address: allengi@avaya.com

Phone Number: +1 (786) 331-0765

Authorized Resellers (68.99 KB)

A	B	C

Avaya Authorized Reseller: Step Resources Communications

Contact Information	
Vendor/Business Name:	STEP CG
Contact Person Name:	Danny Poindexter
Title:	Regional Sales Executive
Street Address:	407 Vine St Suite 210 Cincinnati OH 45202
Phone Number:	281-989-7878
Toll Free Number:	844-478-3724
Fax Number:	
Mobile:	281-989-7878
Email Address:	dpoindexter@stepcg.com
Ordering Information	
Customers should direct orders to:	Danny Poindexter
State of FL Vendor number (FEID):	
Mailing Address:	407 Vine St Suite 210 Cincinnati OH 45202
Phone Number:	281-989-7878
Toll Free Number:	844-478-3724
Fax Number:	
Mobile:	281-989-7878
Email Address:	dpoindexter@stepcg.com
URL:	www.stepcg.com
Remit Address:	407 Vine St Suite 210 Cincinnati OH 45202

PARTICIPATING ADDENDUM
WSCA-NASPO COOPERATIVE PURCHASING ORGANIZATION
DATA COMMUNICATIONS PRODUCTS AND SERVICES 14-19
Administered by the State of Utah (hereinafter "Lead State")

MASTER AGREEMENT
Avaya Inc.
Master Agreement No: AR603
(hereinafter "Contractor")

And

State of Florida
Alternate Contract Source Number 43220000-WSCA-14-ACS
(hereinafter "Participating State/Entity")

1. Scope: Contractor and the Division of Purchasing and General Services, an agency of the Lead State have executed State Cooperative Contract, Contract Number AR603 for Data Communications Products and Services 14-19 ("WSCA-NASPO Master Agreement" or "Master Agreement"). The Master Agreement, as now or hereafter amended and which constitute Special Conditions, is incorporated into this addendum ("Participating Addendum") as if set forth at length. This addendum covers the Data Communications Products and Services 14-19 contracts led by the State of Utah for use by state agencies and other entities located in the Participating State/Entity authorized by that state's statutes to utilize state/entity contracts with the prior approval of the state's chief procurement official. Capitalized terms not defined in this Participating Addendum shall have the meaning set forth in the Master Agreement. To the extent of a conflict of terms between the Master Agreement and this Participating Addendum, the order of precedence set forth in Section 1 of Attachment A of the Master Agreement shall apply.

2. Participation: Use of specific WSCA-NASPO cooperative contracts by agencies, political subdivisions and other entities (including cooperatives) authorized by an individual state's statutes to use state/entity contracts are subject to the prior approval of the respective State Chief Procurement Official. Issues of interpretation and eligibility for participation are solely within the authority of the State Chief Procurement Official.

3. Participating State Modifications or Additions to Master Agreement:
(These modifications or additions apply only to actions and relationships within the Participating Entity.)

A. Eligible Users

State agencies and other eligible users (hereinafter collectively referred to as "Eligible Users" or an "Eligible User") may make purchases from this Agreement pursuant to the terms and conditions of the Contract as modified and supplemented herein.

B. Changes and Additions to the Contract

1. Upon execution of this Alternate Contract Source (ACS) agreement, the Department of Management Services (Department) and all Eligible Users may purchase products and services under the WSCA-NASPO contract No. AR603 for Data Communications Products & Services 14-19, Exhibit A.

2. The Department and Eligible Users acknowledge and agree to be bound by the terms and conditions of the Master Agreement (Exhibit A), except as otherwise specified in this ACS.

3. The following are modifications to the Master Agreement (Exhibit A):
   a. PUR 1000 Form: The Department Purchasing Form PUR 1000 is attached hereto and incorporated herein as Exhibit B.

   b. Discriminatory Vendors. An entity or affiliate placed on the discriminatory vendor list pursuant to section 287.134 of the Florida Statutes may not:
      - submit a bid on a contract to provide any goods or services to a public entity;
      - submit a bid on a contract with a public entity for the construction or repair of a public building or public work;
      - submit bids on leases of real property to a public entity;
      - be awarded or perform work as a contractor, supplier, sub-contractor, or consultant under a contract with any public entity; or
      - transact business with any public entity.

   c. Effective Date: The ACS shall become effective on the last date signed below and is coterminous with Exhibit A, unless terminated earlier by the Department. Exhibit A specifies the term as June 1, 2014 through May 31, 2019 with no renewal options identified.

   d. Vendor Registration and Transaction Fees: In order to complete any transaction between Eligible Users and the Contractor, the Contractor must be registered with the Florida Department of State, Division of Corporations (www.sunbiz.org) and in MyFloridaMarketPlace. Section 287.042(1)(h), Florida Statutes, and Rule 60A-1.031, Florida Administrative Code, is hereby incorporated by reference. All transactions are subject to a one percent transaction fee pursuant to the rule.

e. Orders: In order to procure products and services hereunder, Eligible Users shall issue purchase orders or use a Purchasing Card which shall reference this ACS. Eligible Users are responsible for reviewing the terms and conditions of this ACS and Exhibit A. Neither the Department nor WSCA-NASPO is a party to any purchase order issued hereunder.

f. Compliance with Laws: The Contractor shall comply with all laws, rules, codes, ordinances, and licensing requirements that are applicable to the conduct of its business, including those of federal, State, and local agencies having jurisdiction and authority. By way of non-exhaustive example, Chapter 287 of the Florida Statutes and Rule 60A-1 of the Florida Administrative Code govern the ACS. By way of further non-exhaustive example, the Contractor shall comply with section 274A of the Immigration and Nationalization Act, the Americans with Disabilities Act, and all prohibitions against discrimination on the basis of race, religion, sex, creed, national origin, handicap, marital status, or veteran's status. Violation of any laws, rules, codes, ordinances, or licensing requirements shall be grounds for Contract termination or nonrenewal of the contract.

g. Other Eligible Users: If any additional ordinance, rule, or other local governmental authority requires additional contract language before an Eligible User can make a purchase from the ACS referenced above, in lieu of this ACS, the Eligible User is responsible for signing a separate contract with the Contractor, capturing that additional contract language.

h. Provisions of section 287.058, Florida Statutes: The provisions of section 287.058(1)(a)-(c) and (g), Florida Statutes, are hereby incorporated by reference.

i. Public Records: If, under this contract, the Contractor is providing services and is acting on behalf of the Department as provided under section 119.011(2),

Florida Statutes, the Contractor, subject to the terms of section 287.058(1)(c), Florida Statutes, and any other applicable legal and equitable remedies, shall:

(1) Keep and maintain public records that ordinarily and necessarily would be required by the Department in order to perform the service.
(2) Provide the public with access to public records on the same terms and conditions that the Department would provide the records and at a cost that does not exceed the cost provided in Chapter 119, Florida Statutes, or as otherwise provided by law.
(3) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law.
(4) Meet all requirements for retaining public records and transfer, at no cost, to the Department all public records in possession of the Contractor upon termination of the contract and destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. All records stored electronically must be provided to the Department in a format that is compatible with the information technology systems of the Department.

The Department may unilaterally cancel this Contract for refusal by the Contractor to comply with this section by not allowing public access to all documents, papers, letters, or other material made or received by the contractor in conjunction with the contract, unless the records are exempt from s. 24(a) of Art. I of the State Constitution and s.119.07(1), Florida Statutes.

j. The State of Florida's performance and obligation to pay under this contract is contingent upon an annual appropriation by the Legislature. The Contractor shall comply with section 11.062, Florida Statutes and section 216.347, Florida Statutes, prohibiting use of funds to lobby the Legislature, Judicial, or state agencies.

WSCA-NASPO COOPERATIVE PURCHASING ORGANIZATION

C. Contract Number

All purchase orders issued by Eligible Users within the State of Florida shall include the Department of Management Service's contract number, 43220000-WSCA-14-ACS, unless otherwise provided by Florida Law, statute, rule or this ACS. State agencies will not be required to submit an ACS form for purchases related to this ACS.

D. Contract Document

This ACS and its Exhibits set forth the entire agreement between the parties with respect to the subject matter of this ACS. The terms and conditions of this ACS and its exhibits shall prevail and govern in the case of any such inconsistent or additional terms.

E. Event of Dispute

In the case of an ambiguity which requires extrinsic evidence to determine the intent of the parties, the following documents shall have priority in the order set forth below:

1. This Participating Addendum
2. Exhibit B, PUR 1000
3. Exhibit A, State of Utah WSCA-NASPO Agreement AR603, Data Communications Products & Services 14-19

F. Intellectual Property

Intellectual Property rights are as stated in the WSCA-NASPO Agreement, Section 17.2.

G. Employment Eligibility Verification

Pursuant to State of Florida Executive Orders Nos.: 11-02 and 11-116, Contractor is required to utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment of all new employees hired by the Contractor during the ACS term. Also, Contractor shall include in related subcontracts a requirement that subcontractors performing work or providing services pursuant to the state ACS utilize the E-Verify system to verify employment of all new employees hired by the subcontractor during the ACS term.

H. Price List/Preferred Price

The Contractor's price list will be the same as the WSCA-NASPO price list, and the Department will post a link on the Department's website to the price list posted on the WSCA-NASPO website. Contractors are encouraged to provide special pricing and/or tiered discount rates applicable to State of Florida Eligible Users wherever possible. Paragraph 4(b) of the PUR1000 is not applicable. Use of the WSCA-NASPO price list will enable the Eligible Users to avail themselves of the best possible price and promote competition. Contractor and Contractor's resellers are not required to pass on to all Master Agreement End Users or to all Participation Addendum Eligible Users a price reduction when Contractor and Contractor's reseller extends additional discounts only to an individual ordering customer for a specific order or a specific project, and such situations do not constitute Preferred Pricing.

I. Scrutinized Company List

In executing this ACS, the Contractor certifies that it is not listed on either the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List, created pursuant to section 215.473, Florida Statutes. Pursuant to subsection 287.135(5), Florida Statutes, Contractor agrees the Department may immediately terminate this ACS for cause if the Contractor is found to have submitted a false certification or if Contractor is placed on the Scrutinized Companies with Activities in Sudan List or the Scrutinized Companies with Activities in the Iran Petroleum Energy Sector List during the term of the ACS.

J. Ordering Instructions

1. The Contractor agrees to meet the following requirements:
    a. Provide appropriate contact information for Eligible Users to use for product and/or service inquiries and purchases, as well as the most up-to-date product/service offering the Contractor is authorized to provide in accordance with this ACS; and

b. If orders are to be sent to resellers or distributors for fulfillment then the Contractor is responsible for providing this list of authorized resellers or distributors for use; and
c. The accuracy of this information must be maintained by Contractor throughout the duration of the ACS; and

2. The Contractor must be able to accept Purchase Orders (PO) via fax, e-mail, or cXML as identified in L.1 below.

K. Electronic Invoicing

The Contractor shall supply electronic invoices in lieu of paper-based invoices for those transactions processed through the MFMP. Contractor agrees, upon Department's request, to establish electronic invoicing within ninety (90) days of written request. Electronic invoices shall be submitted to the Customer through the Ariba Network (AN) in one of three mechanisms as listed below:

1. cXML (Commerce eXtensible Markup Language)
   This standard establishes the data contents required for invoicing via cXML within the context of an electronic environment. This transaction set can be used for invoicing via the AN for catalog and non-catalog goods and services. The cXML format is the Ariba preferred method for electronic invoicing.
2. EDI (Electronic Data Interchange)
   This standard establishes the data contents of the Invoice Transaction Set (810) for use within the context of an EDI environment. This transaction set can be used for invoicing via the AN for catalog and non-catalog goods and services.
3. PO Flip via ASN
   The online process allows suppliers to submit invoices via the AN for catalog and non-catalog goods and services. Contractors have the ability to create an invoice directly from their Inbox in their AN account by simply "flipping" the P.O. into an invoice. This option does not require any special software or technical capabilities.

For the purposes of this section, the Contractor warrants and represents that it is authorized and empowered to and hereby grants the State and the third party provider of MFMP, a State Contractor, the right and license to use, reproduce, transmit, distribute, and publicly display within the system the information outlined above. In addition, the Contractor warrants and represents that it is authorized and empowered to and hereby grants the State and the third party provider the right and license to reproduce and display within the system the Contractor's trademarks, system marks, logos, trade dress, or other branding designation that identifies the products made available by the Contractor under the ACS.

L. Contract Quarterly Reports

The Contractor shall submit a Quarterly Report in the required format electronically to the Department Contract Manager within 30 days of the end of the quarter. The Department reserves the right to require the Contractor to provide additional reports within 30 days written notice. Failure to provide the Quarterly Report or other reports requested by the Department may result in the Contractor being found in default and may result in termination of the ACS.

Sales will be reviewed on a quarterly basis. Should no sales be recorded in two consecutive contract quarters, the Department may terminate the contract.

M. Business Review Meetings

The Department reserves the right to schedule business review meetings as frequently as necessary. The Department will provide the format for the Contractor's agenda. Prior to the meeting, the Contractor shall submit the completed agenda to the Department for review and acceptance. The Contractor shall address the agenda items and any of the Department's additional concerns at the meeting. Failure to comply with this section may result in the Contractor being found in default and contract termination.

N. Commitment to Diversity in Government Contracting

The State of Florida is committed to supporting its diverse business industry and population through ensuring participation by minority-, women-, wartime-, and service-disabled veteran business enterprises in the economic life of the State. The State of Florida Mentor Protégé Program connects minority-, women-, wartime-, and service-disabled veteran business enterprises with private corporations for business development mentoring. We strongly encourage firms doing business with the Stale of Florida to consider this initiative. For more information on the Mentor Protégé Program., please contact the Office of Supplier Diversity at (850) 487-0915 orosdhelp@dms.myflofida.com.

Upon request, the Contractor shall report to the Department spend with certified and other minority business enterprises. These reports will include the period covered, the name, minority code and Federal Employer Identification Number of each minority vendor utilized during the period. Commodities and services provided by the minority business enterprise, and the amount paid to each minority vendor on behalf of each purchasing agency ordering under the terms of this Contract.

O. Subcontractors/Fulfillment Partners

The Contractor may use a subcontractor or Fulfillment Partner in order to provide adequate products and services. All subcontractors and Fulfillment Partners shall be the direct responsibility of the Contractor. The Contractor is responsible for all liability, terms and conditions within the contract. If a subcontractor or Fulfillment Partner is authorized to conduct business on behalf of the Contractor and the subcontractor or Fulfillment Partner is to receive compensation for its services, then any dispute, with the exception of billing disputes related to Fulfillment Partner's invoice to Eligible User, shall be resolved between the Contractor and the subcontractor or Fulfillment Partner. The State of Florida is not a party to any agreement entered into between the Contractor and its subcontractor(s) and/or Fulfillment Partner(s). The Contractor shall be responsible to report all contract sales (and pay any associated MFMP transaction fees), including those of any such subcontractors and/or Fulfillment Partners and shall ensure that all such subcontractors and Fulfillment Partners meet the following requirements:

- Have an ACTIVE Registration with the Florida Department of State, Division of Corporations (www.sunbiz.org)
- Registered in the MFMP Vendor Information Portal (https://vendor.myfloridamarketplace.com)
- Not be on the State of Florida's Convicted, Suspended, or Discriminatory lists http://www.dms.myflorida.com/business_operations/State_purchasing/vendor_information/convicted_suspended_discriminatory_complaints_vendor_lists
- Have a copy of e-Verify Status on file
- Have a current W-9 filed with the Florida Department of Financial Services (https://flvendor.myfloridacfo.com)

4. Lease Agreements: Agencies may lease equipment through alternative financing arrangements other than through the State of Florida Consolidated Equipment Financing Program (CEFP). This option is governed by sections 287.063 and 287.064, Florida Statutes, and Rule 69I-3, Florida Administrative Code. The Department of Financial Services (DFS) Finance and leasing Section will review proposed leases to determine compliance with all requirements and to ensure leases are economical and cost effective. The Eligible User will be required to complete and submit to DFS the Checklist – Approval to Lease Equipment form. A copy of the form may be found at the DFS website: http://www.myfloridacfo.com/Division/AA/Forms/default.htm

Prior approval of the Chief Financial Officer (as defined in Section 17.001, Florida Statutes) is required for State agencies to enter into or to extend any lease or installment-purchase agreement in excess of the Category Two amount established by section 287.017 of the Florida Statutes. All State agencies are urged to review the Chief Financial Officer's latest memorandum addressing leases and deferred-payment purchases of equipment when considering the leasing or purchasing of equipment.
DFS memos can be found at: http://www.myfloridacfo.com/Division/AA/Memos/default.htm.
5. Primary Contacts: The primary contact individuals for this Participating Addendum are as follows (or their named successors):

PARTICIPATING ADDENDUM
WSCA-NASPO COOPERATIVE PURCHASING ORGANIZATION
DATA COMMUNICATIONS PRODUCTS AND SERVICES 14-19
Administered by the State of Utah (hereinafter "Lead State")

MASTER AGREEMENT
Avaya Inc.
Master Agreement No: AR603
(hereinafter "Contractor")

And

State of Florida
Alternate Contract Source Number 43220000-WSCA-14-ACS
(hereinafter "Participating State/Entity")

Contractor

Name	Avaya Inc. Rick Wharton
Address	HQ: 4655 Great America Parkway, Santa Clara, CA 95054-1233
Telephone	919-425-8304
E-mail	rwharton@avaya.com

Participating Entity

Name	Florida Department of Management Services - Jerilyn Bailey
Address	4050 Esplanade Way, Suite 360, Tallahassee, FL 32399-0950
Telephone	850-921-4072
Fax	850-414-6122
E-mail	jerilyn.bailey@dms.myflorida.com

6. Warrant of Authority: Each person signing this Participating Addendum warrants that he or she is duly authorized to do so and to bind the respective party.

IN WITNESS WHEREOF, the parties have executed this Addendum as of the date of execution by both parties below.

Participating State: Florida	**Contractor: Avaya Inc.**
Signature:	Signature: Carson Hostetter
Name: Chad Poppell	Name: Carson Hostetter
Title: Secretary	Title: Area Sales Vice President
Date: 7/13/15	Date: July 6, 2015

Please email fully executed PDF copy of this document to PA@wsca-naspo.org to support documentation of participation and posting in appropriate data bases.

STATE OF UTAH - STATE COOPERATIVE CONTRACT

CONTRACT NUMBER AR603

1. CONTRACTING PARTIES: This State Cooperative Contract is between the **Division of Purchasing and General Services (State)**, 3150 State Office Building, PO Box 141061, Salt Lake City, UT 84114-1061, an agency of the State of Utah, and the following CONTRACTOR:

Avaya Inc.		
Name		
4655 Great America Parkway		
Address		
Santa Clara	CA	95054
City	State	Zip

LEGAL STATUS OF CONTRACTOR
- ☐ Sole Proprietor
- ☐ Non-Profit Corporation
- ☒ For-Profit Corporation
- ☐ Partnership
- ☐ Government Agency

Contact Person Linda Grande Phone # 212-841-4858 Fax # 212-841-4858 Email lgrande@avaya.com
Federal Tax ID# 22-3713430 Vendor #93685A Commodity Code #20458, 20464, 20621, 20623, 20659, 83833, 83800, 88332, 92000

2. GENERAL PURPOSE OF CONTRACT: The general purpose of this contract is to provide:

Data communication equipment and services. A detailed list of awarded categories and subcategories are included in Attachment B - Scope of Work.
Avaya is authorized to provide equipment and services in the following categories:
5.2.2 Networking Software
5.2.4 Optical Networking
5.2.5 Routers
5.2.6 Security
5.2.8 Switches
5.2.9 Wireless
5.3.0 Unified Communications

3. CONTRACT PERIOD: Effective date: June 1, 2014 Termination date: May 31, 2019 unless terminated early or extended in accordance with the terms and conditions of this contract. Renewal options (if any): N/A

4. PRICING AS PER THE ATTACHMENT C
PAYMENT TERMS: Net 30
DAYS REQUIRED FOR DELIVERY: 30 days ARO
MINIMUM ORDER: N/A
FREIGHT TERMS: FOB Destination, Freight Prepaid

5. ATTACHMENT A: Standard Contract Terms and Conditions, State Cooperative Contract
ATTACHMENT B: Scope of Work
ATTACHMENT C: Product Offerings and Pricing
ATTACHMENT D: Vendor's Response to Solicitation JP14001. The parties hereby acknowledge and agree that any exceptions stated in attachment "D" – Vendor's Proposal Response have been removed and/or resolved between the parties. Any exception in attachment "D" are explicitly NOT a part of this contract.

Any conflicts between Attachment A and other Attachments will be resolved in favor of Attachment A. State specific Terms and Conditions will be found in the executed Participating Addendums. State Terms and Conditions in an executed Participating Addendum will take priority in the event of conflict between those terms and conditions and this Cooperative Contract.

6. DOCUMENTS INCORPORATED INTO THIS CONTRACT BY REFERENCE BUT NOT ATTACHED:
   a. All other governmental laws, regulations, or actions applicable to the goods and/or services authorized by this contract.
   b. Utah State Procurement Code, Procurement Rules, CONTRACTOR'S response to Bid #JP14001 and JP14001-1 dated August 30, 2013 and December 2, 2013, and Bid #JP14001 and JP14001-1 dated August 30, 2013 and December 2, 2013.

IN WITNESS WHEREOF, the parties sign and cause this contract to be executed.

CONTRACTOR

Contractor's Signature — Date: 12-16-14

Derrell James, VP
Type or Print Name and Title

STATE OF UTAH

Director, Div. of Purchasing & General Svs. — Date: 12/23/14

Rev 05/14/12

ATTACHMENT A – WSCA-NASPO Terms and Conditions

WSCA-NASPO Master Agreement Terms and Conditions

1. AGREEMENT ORDER OF PRECEDENCE:
The Master Agreement shall consist of the following documents:
1. A Participating Entity's Participating Addendum ("PA");
2. WSCA-NASPO Master Agreement Terms and Conditions;
3. The Statement of Work;
4. The Solicitation; and
5. Contractor's response to the Solicitation.

These documents shall be read to be consistent and complementary. Any conflict among these documents shall be resolved by giving priority to these documents in the order listed above. Contractor terms and conditions that apply to this Master Agreement are only those that are expressly accepted by the Lead State and must be in writing and attached to this Master Agreement as an Exhibit or Attachment. No other terms and conditions shall apply, including terms and conditions listed in the Contractor's response to the Solicitation, or terms listed or referenced on the Contractor's website, in the Contractor quotation/sales order or in similar documents subsequently provided by the Contractor.

2. AMENDMENTS The terms of this Master Agreement shall not be waived, altered, modified, supplemented or amended in any manner whatsoever without prior written approval of the WSCA-NASPO Contract Administrator.

3. ASSIGNMENT/SUBCONTRACT.

3.1. Neither party shall assign, sell, or transfer its rights and responsibilities under this Agreement (other than the right to receive any amount due, which shall be freely assignable upon written notice to Purchaser), in whole or in part, without the prior written approval of the other party, which approval will not be unreasonably withheld. Notwithstanding the

foregoing, Contractor shall have the right to assign all or part of this Agreement as part of a merger, corporate reorganization, or sale of assets or to a majority-owned or majority-controlled subsidiary or affiliate, or to Fulfillment Partners, and to subcontract Services to third parties provided that Contractor remains responsible for the performance of such Services by subcontractors done in the normal course of their business obligations and duties to Contractor. However, in all cases notwithstanding subcontracting, the Purchaser will deal only with invoices and payment through either Contractor or the Fulfillment Partners listed on the individual *Participating Addendum*. Any allowed assignee or merged entity shall be subject to all the terms of this Agreement.

3.2. Contractor may, with prior written consent from Participating States, which consent shall not be unreasonably withheld, enter into subcontracts with third parties as "Fulfillment Partners". Fulfillment Partners are Subcontractors who may provide Products and Services under this Agreement at the Price Discounts established in this Agreement and bill Purchasers directly for such Products and Services.

3.3. Contractor, as well as Fulfillment Partners participate in the Federal Communication Commission's E-rate discount program established under the authority of the Federal Telecommunications Commission Act of 1996 and may accept and process E-Rate transactions under their own E-rate registration numbers.

3.4. (Intentionally Deleted)

4. CANCELLATION

4.1. Termination for Convenience

4.1.1. WSCA-NASPO Master Agreement: Either party (Lead State or Contractor) may terminate this WSCA-NASPO Master Agreement for convenience at any time by providing the other party with at least ninety (90) calendar days' written notice prior to the effective date of the cancellation. The WSCA-NASPO Master Agreement shall automatically terminate at the end of the period for which notice is given.

Any cancellation under this provision shall not affect the rights and obligations of either party attending orders outstanding at the time of cancellation, e.g., any right of Purchasing Entity to indemnification by the Contractor, rights of Contractor payment for goods/services delivered and accepted, and rights attending any warranty or default in performance in association with any prior order.

4.2. Rights On Termination or Expiration

4.2.1. Upon termination or expiration of this Agreement or a Participating Addendum, (a) Contractor reserves the right to cease all further delivery of Product or Services, (b) all outstanding invoices become due and payable within thirty (30) days of termination, and (c)

all rights and licenses of Participating Entity under this WSCA-NASPO Master Agreement shall terminate, subject to the terms of this Section. If Contractor agrees to complete delivery of any further Products or Services due against any existing accepted Purchase Orders then Participating Entity shall pay for such Products or Services in advance within thirty (30) days.

4.2.2. Except for a termination of this WSCA-NASPO Master Agreement resulting from Participating Entity's breach of Section 17 (License of Pre-Existing Intellectual Property), Section 5 (Confidentiality, Non-Disclosure and Injunctive Relief), or Section 16 (Laws and Regulations), upon termination or expiration of this WSCA-NASPO Master Agreement, Participating Entity may continue to use, in accordance with the terms and conditions of this WSCA-NASPO Master Agreement and/or the Participating Addendum, Products provided to it by Contractor prior to the date of termination or expiration provided payment has been made in full for such Products.

4.2.3. Upon termination or expiration of this WSCA-NASPO Master Agreement, Participating Entity shall immediately return to Contractor all Confidential Information (including all copies thereof) then in Participating Entity's possession, custody or control (except that Participating Entity may retain one archival copy for records retention purposes only as required by law); provided that, except for a termination resulting from Participating Entity's breach of Section 17 (Intellectual Property and Software Licensing), Section 5 (Confidential Information), or Section 16 (Export, Re-Export), Participating Entity may retain a sufficient amount of such Confidential Information and material to operate its installed base of Products.

4.2.4. In the event of any termination pursuant to this section, and unless otherwise required by law or court of competent jurisdiction, Purchaser shall remain obligated to comply in perpetuity with the provisions of Section 17 (Software License), Section 16 (Export Restrictions), or Section 5 (Confidential Information).

4.3. Validity of Orders

The parties agree that if Purchaser places a firm Order prior to the expiration or termination of this WSCA-NASPO Master Agreement (or a Participating Addendum), which by its terms would extend beyond the expiration or termination of this WSCA-NASPO Master Agreement (or a Participating Addendum), and Contractor has accepted such Purchase Order(s) prior to the expiration or termination of this WSCA-NASPO Master Agreement or a Participating Addendum, then any such Purchase Order(s) (i) shall remain in effect and be governed by the terms and conditions of this WSCA-NASPO Master Agreement, and (ii) shall survive expiration of this WSCA-NASPO Master Agreement in accordance with the terms herein but will not be considered an extension of the term of this WSCA-NASPO Master Agreement nor a renewal thereof. No Orders placed after expiration or termination of this WSCA-NASPO Master Agreement shall be valid.

5. CONFIDENTIALITY, NON-DISCLOSURE AND INJUNCTIVE RELIEF

5.1 Confidentiality. Whereas, either party, for the parties' mutual benefit, may desire to disclose to the other, certain information it considers confidential and/or proprietary; and whereas, Contractor acknowledges that it and its employees or agents may, in the course of providing the Product under this Master Agreement, be exposed to or acquire information that is confidential to Participating Entity or Participating Entity's clients, now, therefore, the parties agree that any and all information of any form that is marked as confidential or would by its nature be deemed confidential obtained by the receiving party, its employees or agents in the performance of this Master Agreement, including, but not necessarily limited to (a) any Participating Entity records, (b) personnel records, (c) information concerning individuals, (d) information protected by copyright, patent, trademark, or trade secret laws, and (e) either party's business and/or technical information is confidential information ("Confidential Information"). Any reports or other documents or items (including software) that result from the use of the Confidential Information by receiving party shall be treated in the same manner as the Confidential Information. Confidential Information does not include information that (a) is or becomes publicly known other than by an act or omission of the receiving party; (b) is furnished by the disclosing party to others without restrictions similar to those imposed by this Master Agreement; (c) is rightfully in receiving party's possession without the obligation of nondisclosure prior to the time of its disclosure under this Master Agreement; (d) is obtained from a source other than disclosing party without the obligation of confidentiality, (e) is disclosed with the written consent of disclosing party or; (f) is independently developed by employees, agents or subcontractors of disclosing party who can be shown to have had no access to the disclosing party's Confidential Information.

5.2 Non-Disclosure. The receiving party shall hold Confidential Information in confidence, using at least the industry standard of confidentiality, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purposes whatsoever other than the performance of this Master Agreement to the receiving party, hereunder, and to advise each of its employees and agents of their obligations to keep Confidential Information confidential. The receiving party shall use commercially reasonable efforts to assist disclosing party in identifying and preventing any unauthorized use or disclosure of any Confidential Information within its possession. Without limiting the generality of the foregoing, receiving party shall advise disclosing party immediately if receiving party learns or has reason to believe that any employee of receiving party, having access to Confidential Information has violated the Confidentiality obligation of this Master Agreement and receiving party shall at its expense cooperate with disclosing party in seeking injunctive or other equitable relief in the name of disclosing party or receiving party against any such violation. Except as directed by disclosing party, receiving party will not at any time during or within (5) five years after the term of this Master Agreement disclose, provided trade secrets shall remain confidential for so long as they remain trade secrets, directly or indirectly, any Confidential Information to any person, except in accordance with this Master Agreement,

and that upon termination of this Master Agreement or at disclosing party's request, receiving party shall turn over to disclosing party all documents, papers, and other matter in receiving party's possession that embody Confidential Information. Notwithstanding the foregoing, receiving party may keep one copy of such Confidential Information necessary for quality assurance, audits and evidence of the performance of this Master Agreement and such other necessary copies of Confidential Information as may be in receiving party's possession associated with normal back-up and archiving processes.

5.3 Injunctive Relief. Receiving party acknowledges that breach of this Section, including disclosure of any Confidential Information, will cause irreparable injury to the disclosing party that is inadequately compensable in damages. Accordingly, disclosing party may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies that may be available. Receiving party acknowledges and agrees that the covenants contained herein are necessary for the protection of the legitimate business interests of disclosing party and are reasonable in scope and content.

6. DEBARMENT The contractor certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction (contract) by any governmental department or agency. If the contractor cannot certify this statement, attach a written explanation for review by WSCA-NASPO.

7. DEFAULTS & REMEDIES

7. Defaults & Remedies:

7.1. WSCA-NASPO Master Agreement: The Lead State or Contractor may terminate this WSCA-NASPO Master Agreement if either party breaches the terms of the WSCA-NASPO Master Agreement as follows: (a) immediately upon providing written notice to the breaching party if the breach is not capable of being cured, and (b) thirty (30) calendar days after providing written notice to the breaching party if the breaching party otherwise fails to cure a material breach within such thirty (30) calendar day period or commence cure within such thirty (30) calendar day period or diligently pursue completion of such cure.

Notwithstanding the foregoing, the WSCA-NASPO Master Agreement may be terminated immediately by Contractor for cause in the event of Purchaser's breach of the following Sections in the WSCA-NASPO Master Agreement Terms and Conditions; Section 17 (License of Pre-Existing Intellectual Property), Section 16 (Laws and Regulations), or Section 5 (Confidentiality, Non-Disclosure and Injunctive Relief).

8. ORDERS and DELIVERY

Notwithstanding anything contained in the Agreement to the contrary:

8.1. Contractor reserves the right to require that purchases be made through Fulfillment Partners. Where so required by Contractor, Purchasers shall not order Products or Services directly from Contractor and shall order same from Fulfillment Partner. Purchaser shall purchase Products by issuing a written or electronic Purchase Order, signed or (in the case of electronic transmission) sent by its authorized representative, referencing this Agreement and PA, indicating specific Products, Services, quantity, unit price, total purchase price, shipping instructions, requested delivery dates, bill-to and ship-to addresses, tax exempt certifications, if applicable, and any other special instructions.

8.2. Any contingencies on Purchaser's Purchase Orders, that are made through Fulfillment Partners, are not binding upon Contractor. The terms and conditions of this Agreement and the relevant PA prevail, regardless of any additional or conflicting terms on the Purchase Order, or other correspondence from Purchaser to Contractor or Fulfillment Partner and any additional or conflicting terms are deemed rejected unless Contractor or Fulfillment Partner has expressly agreed to such terms in writing. Mere acceptance or processing of a Purchase Order, Order or Order Document containing such terms shall not constitute such express consent.

8.3. All Purchase Orders are subject to Contractor's or Fulfillment Partner’s reasonable acceptance.

8.4. Purchaser may defer Product shipment up to thirty (30) days from the originally scheduled shipping date, provided written notice is received by Contractor or Fulfillment Partner at least ten (10) days before the originally scheduled shipping date. Cancelled orders, rescheduled deliveries or Product configuration changes made by Purchaser less than ten (10) days before the original shipping date are subject to Contractor's or Fulfillment Partner acceptance and a charge of thirteen percent (13%) of the total order amount relating to the affected Product(s). Contractor reserves the right to reschedule delivery due to configuration changes made within ten (10) days of scheduled shipment. No cancellation shall be accepted by Contractor or Fulfillment Partner where Products are purchased with implementation Services, including but not limited to design, customization or installation Services, except as may be set forth in the Agreement or Statement of Work under which the Services are to be rendered. Notwithstanding anything to the contrary, if Contractor or Fulfillment Partner is delayed in shipping the Product for thirty (30) days or more from the original shipping date, the Participating Entity may cancel the order without charge.

8.5. Services. Purchaser may place Purchase Orders for the various Services offered by Contractor. The provision of any such Services, if accepted by Contractor, shall be subject to the terms and conditions set forth in this Agreement, as well as the then-current scope of service offerings set forth on Contractor’s website. Contractor reserves the right to

subcontract services to a third party maintenance organization to provide the Services to the Purchaser.

8.6. After receipt and acceptance by Contractor or Fulfillment Partner of Participating Entity's Purchase Order(s), Contractor or Fulfillment Partner will use commercially reasonable efforts to ship all direct purchase orders designated for shipment to U.S. locations on or after thirty (30) days of the Participating Entity requested date for Products. Please note that the following circumstances may affect lead times: (i) new products purchased within the first three (3) months of release of the Product which are subject to Contractor's then current published lead-times, (ii) third-party stand-alone products which are not a component of equipment resold by Contractor, (iii) end-of-life Products where the termination of the Product has been announced by Contractor, (iv) Products which have been line-stopped due to software discrepancies, reconfiguration, industry-wide product shortages, or alleged infringement claims, or (vi) situations where government rated orders create delays in lead-times.

8.7. Contractor or Fulfillment Partner will communicate scheduled shipping dates within three (3) business days after receipt of a Purchase Order provided that in the event such notification is not received in this time period, Participating Entity shall notify Contractor or Fulfillment Partner of the non-receipt, and Contractor's or Fulfillment Partner's sole obligation with respect to such non-receipt shall be to promptly provide the information to the Participating Entity after such notification.

8.8. If Contractor or Fulfillment Partner has reason to believe that the actual shipment date will occur later than the original shipment date acknowledged by Contractor or Fulfillment Partner for reasons caused by Contractor or Fulfillment Partner, Contractor or Fulfillment Partner shall use commercially reasonable efforts to promptly provide additional information to Participating Entity including by electronic posting of the expected period of delay and, upon request, of the steps available, if any, to minimize the delay. If the extended delivery date is anticipated to be more than thirty (30) calendar days beyond the originally scheduled delivery date, Purchaser may cancel order without any restocking charges.

8.9. Shipping terms are FOB destination, shipping and handling prepaid by Contractor or Fulfillment Partner. The method of shipment shall be consistent with the nature of the Products and hazards of transportation. When Purchaser does not procure installation and implementation Services coincident with the purchase of the Product, then acceptance by Purchaser occurs upon receipt of delivery of the applicable Products to the applicable Purchaser. When Purchaser does procure installation and implementation Services from Contractor coincident with the purchase of Products, then a Statement of Work shall be required and the timing for acceptance of the applicable Products shall be as defined in the SOW, but if the SOW has a Milestone schedule, then the timing for acceptance for each Milestone shall be as defined in the SOW. Title and risk of loss of hardware Products shall pass to Purchaser upon delivery at destination.

8.10. If Purchaser requests delivery of Products to Purchaser's forwarding agent or other representative, Purchaser assumes responsibility for compliance with applicable export laws and regulations.

8.11. (Intentionally deleted)

8.12. All sales are final. Except as provided in Contractor's Warranty (see Section 30), Contractor only permits the return of un-opened Products due to Contractor's or Fulfillment Partner's shipping or order processing error, or damage in transit. No other returns are authorized under this Agreement. Warranty returns will not be subject to any restocking charges.

9. FORCE MAJEURE Neither party to this Master Agreement shall be held responsible for delay or default caused by fire, riot, acts of God and/or war which is beyond that party's reasonable control. Lead State may terminate this Master Agreement after determining such delay or default will reasonably prevent successful performance of the Master Agreement.

10.GOVERNING LAW This procurement and the resulting Agreement shall be governed by and construed in accordance with the laws of the state sponsoring and administering the procurement. The construction and effect of any Participating Addendum or order against the Master Agreement(s) shall be governed by and construed in accordance with the laws of the Participating Entity's state. Venue for any claim, dispute or action concerning an order placed against the Master Agreement(s) or the effect of an Participating Addendum shall be in the Purchasing Entity's state.

11. INDEMNIFICATION (Intentionally Deleted, See Sections 12 and 15.2)

12. INDEMNIFICATION – INTELLECTUAL PROPERTY

12. INFRINGEMENT defense and INDEMNIFICATION

12.1 Defense and Indemnity. Contractor will defend WSCA-NASPO, the Lead State and Participating Entities, along with their officers, agencies, and employees, ("Indemnified Parties") at Contractor's expense, against any Claim, as defined below, and will indemnify Indemnified Parties as provided for in this Section12 for any judgments, settlements and court awarded attorney's fees resulting from a Claim. Contractor's obligations under this Section 12 are conditioned on the following: (i) Indemnified Parties promptly notifies Contractor of the Claim in writing upon Indemnified Party being made aware of the Claim; (ii) Indemnified Party gives Contractor sole authority and control of the defense and (if applicable) settlement of the Claim, provided that Indemnified Party's legal counsel may participate in such defense and settlement, at Indemnified Party's expense, and (iii) Indemnified Party provides all information and assistance reasonably requested by Contractor to handle the defense or settlement of the Claim. For purposes of this Section, **"Claim"** means any cause of action in a

third party action, suit or proceeding against Indemnified Party alleging that a Product as of its delivery date under this Agreement infringes a valid U.S. patent, copyright or trademark.

12.2 Remedial Measures. If a Product becomes, or Contractor reasonably believes use of a Product may become, the subject of a Claim, Contractor may, at its own expense and option: (i) procure for Indemnified Party the right to continue use of the Product; (ii) replace or modify the Product; or to the extent that neither (i) nor (ii) are deemed commercially practicable, (iii) refund to Indemnified Party a pro-rated portion of the applicable price paid for the Product based on a linear depreciation monthly over a five (5) year useful life, in which case Indemnified Party will cease all use of the Product and return it to Contractor.

12.3 Exceptions. Contractor will have no defense or indemnity obligation for any Claim based on: (i) a Product that has been modified by someone other than Contractor or Contractor's subcontractors unless such modification is approved by Contractor's VP Intellectual Property Law. For clarification, modifications do not include the normal and customary customization required as a part of implementation; (ii) a Product that has been modified by Contractor in accordance with Indemnified Party-provided specifications or instructions; (iii) use or combination of a Product with Third Party Products, open source or freeware technology; (iv) Third Party Products, open source or freeware technology; (v) a Product that is used or located by Indemnified Parties in a country other than the country in which or for which it was supplied by Contractor or (vi) possession or use of the Product after Contractor has informed Indemnified Parties of modifications or changes in the Product required to avoid such Claim and offered to implement those modifications or changes, if such Claim would have been avoided by implementation of Contractor's suggestions and to the extent Indemnified Party did not provide Contractor with a reasonable opportunity to implement Contractor's suggestions; **"Third Party Products"** means any products made by a party other than Contractor, and may include, without limitation, products ordered by Indemnified Party from third parties. However, components of Contractor-branded Products are not Third Party Products if they are both: (i) embedded in Products (i.e., not recognizable as standalone items); and (ii) not identified as separate items on Contractor's price list, quotes, order specifications forms or Documentation.

12.4 Sole Remedy. THE FOREGOING STATES CONTRACTOR'S ENTIRE LIABILITY, AND INDEMNIFIED PARTY'S SOLE AND EXCLUSIVE REMEDY, WITH RESPECT TO ANY INFRINGEMENT OR MISAPPROPRIATION OF ANY INTELLECTUAL PROPERTY RIGHTS OF ANY OTHER PARTY.

13. INDEPENDENT CONTRACTOR The Contractor and Fulfillment Partners shall be an independent contractor, and as such shall have no authorization, express or implied to bind WSCA-NASPO or the respective Participating States to any agreements, settlements, liability or understanding whatsoever, and agrees not to perform any acts as agent for WSCA-NASPO or the Participating States, except as expressly set forth herein.

14. INDIVIDUAL CUSTOMER Except to the extent modified by a Participating Addendum, each Participating Entity shall follow the terms and conditions of the Master Agreement and applicable Participating Addendum and will have the same rights and responsibilities for their purchases as the Lead State has in the Master Agreement, including but not limited to, any indemnity or to recover any costs allowed in the Master Agreement and applicable Participating Addendum for their purchases. Each Participating Entity will be responsible for its own charges, fees, and liabilities. The Contractor or Fulfillment Partner will apply the charges and invoice each Participating Entity individually.

15. INSURANCE; HOLD HARMLESS; GENERAL INDEMNITY; LIMITATION OF LIABILITY; CONSEQUENTIAL AND OTHER DAMAGES:

15.1 INSURANCE. Contractor shall, during the term of this Master Agreement, maintain in full force and effect, the insurance described in this section. Contractor shall acquire such insurance from an insurance carrier or carriers licensed to conduct business in the Participating Entity's state and having a rating of A-, Class VII or better, in the most recently published edition of Best's Reports. Failure to buy and maintain the required insurance may result in this Master Agreement's termination or at a Participating Entity's option, result in termination of its Participating Addendum.

Coverage shall be written on an occurrence basis. The minimum acceptable limits shall be as indicated below, with no deductible for each of the following categories:
a) Commercial General Liability covering the risks of bodily injury (including death), property damage and personal injury, including coverage for contractual liability, with a limit of not less than $1 million per occurrence/$2 million general aggregate;
b) Contractor must comply with any applicable State Workers Compensation or Employers Liability Insurance requirements.

Contractor shall pay premiums on all insurance policies. Such policies shall also reference this Master Agreement and shall have a condition that they not be revoked by the insurer until thirty (30) calendar days after notice of intended revocation thereof shall have been given to Participating Entity by the Contractor.

Prior to commencement of the work, Contractor shall provide to the Participating Entity a written endorsement to the Contractor's general liability insurance policy that (i) Include the Participating Entity as an additional insured, (ii) provides that no material alteration, cancellation, non-renewal, or expiration of the coverage contained in such policy shall have effect unless the named Participating Entity has been given at least thirty (30) days prior written notice, and (iii) provides that the Contractor's liability insurance policy shall be primary, with any liability insurance of the Participating Entity as secondary and noncontributory.

Contractor shall furnish to Participating Entity copies of certificates of all required insurance within thirty (30) calendar days of the Participating Addendum's effective date and prior to performing any work. Copies of renewal certificates of all required insurance shall be furnished within thirty (30) days after renewal date. These certificates of insurance must expressly indicate compliance with each and every insurance requirement specified in this section. Failure to provide evidence of coverage may, at Lead State's sole option, result in this Master Agreement's termination.

Coverage and limits shall not limit Contractor's liability and obligations under this Master Agreement.

15.2. General Indemnity. Subject to governmental immunities of the Participating States, each party to this Agreement and to each Participating Addendum, as the case may be, shall defend, indemnify and hold harmless the other, its corporate affiliates and their respective officers, directors, employees, and agents and their respective successors and assigns from and against any and all claims, losses, liabilities, damages, and expenses (including, without limitation, reasonable attorneys' fees), including without limitation those based on contract or tort, arising out of or in connection with a claim, suit or proceeding brought by a third party based upon bodily injury (including death) or damage to tangible personal property arising from the negligent or intentional acts or omissions of the indemnifying party or its subcontractors, or the officers, directors, employees, agents, successors and assigns of any of them. In the event that the indemnified party's or a third party's negligent or intentional acts or omissions contributed to cause the injury or damage for which a claim of indemnity is being asserted against the indemnifying party hereunder, the damages and expenses (including, without limitation, reasonable attorneys' fees) shall be allocated or reallocated, as the case may be, between the indemnified party, the indemnifying party and any other party bearing responsibility in such proportion as appropriately reflects the relative fault of such parties, or their subcontractors, or the officers, directors, employees, agents, successors and assigns of any of them, and the liability of the indemnifying party shall be proportionately reduced.

The foregoing indemnification obligations are conditioned upon the indemnified party promptly notifying the indemnifying party in writing of the claim, suit or proceeding for which the indemnifying party is obligated under this Subsection, cooperating with, assisting and providing information to, the indemnifying party as reasonably required, and granting the indemnifying party the exclusive right to defend or settle such claim, suit or proceeding; provided that any such settlement or compromise includes a release of the indemnified party from all liability arising out of such claim, suit or proceeding.

15.3. Limitation of Liability. EXCEPT FOR THOSE OBLIGATIONS UNDER SECTIONS 12 (INFRINGEMENT DEFENSE AND INDEMNIFICATION) AND 15.2 (GENERAL INDEMNITY), NOTWITHSTANDING ANYTHING ELSE HEREIN, ALL LIABILITY OF CONTRACTOR AND ITS SUPPLIERS TO ANY PARTICIPATING ENTITY FOR CLAIMS ARISING UNDER THIS AGREEMENT, THE

APPLICABLE PARTICIPATING ADDENDUM, SHALL BE LIMITED TO THE AMOUNT ORDERED FROM CONTRACTOR FOR PRODUCTS OR FOR SERVICES WITH RESPECT TO SUCH PARTICIPATING ENTITY DURING THE TWELVE (12) MONTH PERIOD PRECEDING THE EVENT OR CIRCUMSTANCES GIVING RISE TO SUCH LIABILITY, UP TO $5,000,000. THIS LIMITATION OF LIABILITY IS CUMULATIVE AND NOT PER INCIDENT, AND THIS PROVISION SHALL NOT LIMIT A PURCHASING ENTITY'S CLAIM OF REFUND FOR AMOUNTS PAID FOR PRODUCTS OR SERVICES NOT MEETING MASTER AGREEMENT REQUIREMENTS.

15.4. Waiver of Consequential and Other Damages. IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOST REVENUE, LOST PROFITS, OR LOST OR DAMAGED DATA, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR OTHERWISE, EVEN IF HAVING BEEN INFORMED OF THE POSSIBILITY THEREOF.

15.5 HOWEVER THESE LIMITATIONS OF LIABILITY WILL NOT APPLY IN CASES OF WILLFUL MISCONDUCT, PERSONAL INJURY, BREACHES OF EITHER PARTY'S CONFIDENTIAL INFORMATION OR BREACHES OF CONTRACTOR'S LICENSE RESTRICTIONS. THE LIMITATIONS OF AGGREGATE LIABILITY WILL NOT APPLY TO CONTRACTUAL INDEMNIFICATION OBLIGATIONS PROVIDED IN THE AGREEMENT

16. LAWS AND REGULATIONS

16. Laws and Regulations. The parties will observe all applicable laws and regulations when using the Products and work product of any Services. WSCA-NASPO or Participating Entity, as applicable, is advised that the Products, including any Software, are of U.S. origin and subject to the U.S. Export Administration Regulations ("EAR"). Products also may be subject to applicable local laws and regulations. Diversion contrary to U.S. and/or applicable local country law and/or regulation is prohibited. WSCA-NASPO or Participating Entity, as applicable, agrees not to directly or indirectly export, re-export, import, download, or transmit Products to any country, end user or for any use that is contrary to applicable U.S. and/or local country regulation or statute (including but not limited to those countries embargoed by the U.S. government). WSCA-NASPO or Participating Entity, as applicable, represents that neither the U.S. Bureau of Industry and Security ("BIS") nor any governmental agency has issued sanctions against such party or otherwise suspended, revoked or denied party's export privileges. WSCA-NASPO or Participating Entity, as applicable, agrees not to use or transfer Products for any use relating to nuclear, chemical or biological weapons, or missile technology, unless authorized by the U.S. and applicable local government by regulation or specific written license. Additionally, WSCA-NASPO or Participating Entity, as applicable, is advised that Products may contain encryption algorithm or source code that may not be exported to government or military end users without a license issued by the U.S. BIS and any other country's governmental agencies, where applicable.

17. LICENSE OF PRE-EXISTING INTELLECTUAL PROPERTY

17.1 CONTRACTOR'S SOFTWARE LICENSE TERMS

These Contractor's Software License Terms apply if and to the extent Software is purchased from Contractor or Fulfillment Partner under this Agreement.

THIS END USER LICENSE AGREEMENT ("SOFTWARE LICENSE TERMS") IS APPLICABLE TO THE USE OF CONTRACTOR'S PROPRIETARY SOFTWARE AND THIRD-PARTY PROPRIETARY SOFTWARE. READ THESE SOFTWARE LICENSE TERMS CAREFULLY, IN THEIR ENTIRETY, BEFORE INSTALLING, DOWNLOADING OR USING THE CONTRACTOR SOFTWARE (AS DEFINED IN SECTION A BELOW). BY INSTALLING, DOWNLOADING OR USING THE CONTRACTOR SOFTWARE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE DOING SO (HEREINAFTER REFERRED TO INTERCHANGEABLY AS "YOU" AND "END USER"), AGREE TO THESE SOFTWARE LICENSE TERMS AND CONDITIONS AND CREATE A BINDING CONTRACT BETWEEN YOU AND AVAYA INC. OR THE APPLICABLE AVAYA AFFILIATE ("CONTRACTOR").

A. Scope. These Software License Terms are applicable to anyone who installs, downloads, and/or uses Contractor Software and/or Documentation, obtained from Contractor or Fulfillment Partner. You are not authorized to use the Software if the Software was obtained from anyone other than Contractor or a Fulfillment Partner.

With respect to third party elements subject to a Shrinkwrap License or other Third Party Terms, the Shrinkwrap License or other Third Party Terms shall take precedence over these Software License Terms to the extent of any conflict. Some or all of the Software may be remotely hosted or accessible to you through the internet.

"Software" means computer programs in object code, provided by Contractor or a Fulfillment Partner, whether as stand-alone products or pre-installed on hardware products, and any upgrades, updates, bug fixes, or modified versions thereto. "Documentation" means information published by Contractor in varying mediums which may include product information, operating instructions and performance specifications that Contractor generally makes available to users of its products. Documentation does not include marketing materials.

B. License Grant. Contractor grants you a personal, non-sublicensable, non-exclusive, non-transferable license to use Software and associated Documentation obtained from Contractor or a Fulfillment Partner and for which applicable fees have been paid for your internal business purposes at the indicated capacity and features and within the scope of the applicable license types described below and at locations where the Software is initially installed. Documentation shall be used only in support of the authorized use of the associated Software. Software installed on mobile-devices and clients, such as a laptop or mobile phone, may be used outside of the country where the software was originally installed, provided that such use is on a temporary basis only.

(i) **Right to Move License Entitlements.** Notwithstanding the foregoing limitation permitting use of the Software only at the location where it is initially installed, you may move eligible right to use license entitlements (RTU's) for certain specified types of Software from one location to another in accordance with Contractor's then-current software license portability policy for

that Software ("License Portability Policy"), which is available upon request, subject to the following conditions set forth in this Section b(i):

(a) You shall provide written notice within ten (10) days to Contractor of any RTU moves including but not limited to, the number and type of licenses moved, the location of the original Server and the location of the new Server, the date of such RTU moves and any other information that Contractor may reasonably request;

(b) You may only move RTU's to and from Designated Processors or Servers supporting the same Software application;

(c) You must reduce the quantity of the licenses on the original Server by the number of RTU's being moved to the new Server.

(d) You acknowledge that (1) you may be charged additional fees when moving RTU's as per Contractor's then-current License Portability Policy, (2) maintenance services do not cover system errors caused by moves not performed by Contractor, (3) you are responsible for any programming, administration, design assurance, translation or other activity to make sure the Software will scale and perform as specified as a result of any license moves, and if any such transfer results in a requirement for Contractor system engineering or requires the use of on-site Contractor personnel, you will be charged the Time & Materials fees for such activity;

(e) If your maintenance coverage differs on licenses on the same product instance at the location of the new Server, service updates, recasts and/or fees may apply and any fee adjustments for differences in coverage will only be made on a going forward basis as of the date Contractor receives notice of the RTU move; and

(f) You may move RTU's from one Affiliate to another Affiliate provided that you comply with all of the conditions of this section, including, without limitation, providing the name and address of the new Affiliate in your written notice under subpart (a) above, and provided such new Affiliate agrees to be bound by these Software License Terms. "Affiliate" means any entity that is directly or indirectly controlling, controlled by, or under common control with Contractor or End User. For purposes of this definition, "control" means the power to direct the management and policies of such party, directly or indirectly, whether through ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

(ii) **Non-Production License Grant.** With respect to Software distributed by Contractor to you for non-production purposes, the scope of the license granted herein shall be to use the Software in a non-production environment solely for testing or other non-commercial purposes on a single computer or as otherwise designated by Contractor ("Non-Production License").

C. All Rights Reserved. Contractor or its licensors retain title to and ownership of the Software, Documentation, and any modifications or copies thereof. Except for the limited license rights expressly granted in these Software License Terms, Contractor or its licensors reserve all rights, including without limitation copyright, patent, trade secret, and all other intellectual property rights, in and to the Software and Documentation and any modifications or copies thereof. The Software

contains trade secrets of Contractor, its suppliers, or licensors, including but not limited to the specific design, structure and logic of individual Software programs, their interactions with other portions of the Software, both internal and external, and the programming techniques employed.

D. General License Restrictions. To the extent permissible under applicable law, you agree not to: (i) decompile, disassemble, reverse engineer, reverse translate or in any other manner decode the Software; (ii) alter, modify or create any derivative works or enhancements, adaptations, or translations of the Software or Documentation; (iii) sell, sublicense, lease, rent, loan, assign, convey or otherwise transfer the Software or Documentation except as expressly authorized by Contractor in writing, and any attempt to do so is void; (iv) distribute, disclose or allow use of the Software or Documentation, in any format, through any timesharing service, service bureau, network or by any other similar means, such as hosting or cloud, except as expressly authorized by Contractor in writing; (v) allow any service provider or other third party, with the exception of Contractor's authorized maintenance providers who are acting solely on behalf of and for the benefit of End User, to use or execute any software commands that facilitate the maintenance or repair of any product; (vi) gain access to or the use of any Software or part thereof without authorization from Contractor**;** (vii) enable or activate, or cause, permit or allow others to enable or activate any logins reserved for use by Contractor or Contractor's authorized maintenance providers; (viii) publish the results of any tests run on the Software; (ix) disclose, provide, or otherwise make available to any third party any trade secrets contained in the Software or Documentation; (x) use the Software in a virtualized environment except as expressly authorized by these Software License terms; or (xi) permit or encourage any third party to do any of the foregoing.

End User agrees not to allow anyone other than its authorized employees, agents or representatives who have a need to use the Software or Documentation to have access to the Software or Documentation. End User agrees to inform any third party to whom you give access to the Software or Documentation of these Software License Terms and shall obligate such third party to comply with such terms and provisions. End User shall be responsible for any third party's failure to comply with these Software License Terms and shall indemnify Contractor for any damages, loss, expenses or costs, including attorneys' fees and costs of suit, incurred by Contractor as a result of non-compliance with this section.

E. Proprietary Rights Notices. End User shall affix to each copy of the Software made by End User, in the same form and location, a reproduction of the copyright notices, trademarks, and all other proprietary legends and/or logos of Contractor and/or Contractor's suppliers appearing on the original copy of the Software delivered to End User, and shall retain the same without alteration on all original copies.

F. Backup Copies. End User may create a reasonable number of archival and backup copies of the Software and the Documentation.

G. Upgrades – End User's right to use any upgrades to the Software shall be conditioned upon End User having a valid license to use the original Software and paying the applicable license fee to Contractor or a Fulfillment Partner for such upgrade.

H. Intentionally Deleted).

I. Compliance. Contractor and the Fulfillment Partner who provided the Software have the right to inspect or audit by remote polling or other reasonable means, and to inspect End User's books, records, and accounts during normal business hours and with reasonable notice, to determine End User's compliance with these Software License Terms, including but not limited to usage levels. In the event such inspection or audit uncovers non-compliance with these Software License Terms, then without prejudice to Contractor's termination rights hereunder, End User shall promptly pay Contractor any applicable license fees. End User agrees to keep a current record of the location of the Software.

J. Termination of License; Effect of Termination / Expiration. If you breach these Software License Terms and if within ten (10) business days of your receipt of a reasonably detailed written request to cure, you have not cured all breaches of license limitations or restrictions, Contractor may, with immediate effect, terminate the licenses granted in these Software License Terms without prejudice to any available rights and remedies Contractor may have at law or in equity. Upon termination or expiration of the license for any reason, you must immediately permanently destroy all copies of the Software and any related materials in your possession or control and, upon Contractor's request, certify such destruction in writing. The provisions concerning confidentiality, the protection of trade secrets and proprietary rights, indemnity, license restrictions, export control, and all limitations of liability and disclaimers and restrictions of warranty (as well as any other terms which, by their nature, are intended to survive termination) will survive any termination or expiration of the Software License Terms.

K. License Types. Contractor grants you a license within the scope of the license types described below, with the exception of Heritage Nortel Software, for which the scope of the license is detailed in Section L below. Where the order Documentation does not expressly identify a license type, the applicable license will be a Designated System License. The applicable number of licenses and units of capacity for which the license is granted will be one (1), unless a different number of licenses or units of capacity is specified in the documentation or other materials available to you. "Designated Processor" means a single stand-alone computing device. "Server" means a Designated Processor that hosts a software application to be accessed by multiple users. "Instance" means a single copy of the Software executing at a particular time: (i) on one physical machine; or (ii) on one deployed software virtual machine ("VM") or similar deployment.

Designated System(s) License (DS). End User may install and use each copy or an Instance of the Software only on a number of Designated Processors up to the number indicated in the order. Contractor may require the Designated Processor(s) to be identified in the order by type, serial number, feature key, Instance, location or other specific designation, or to be provided by End User to Contractor through electronic means established by Contractor specifically for this purpose.

Concurrent User License (CU). End User may install and use the Software on multiple Designated Processors or one or more Servers, so long as only the licensed number of Units are accessing and using the Software at any given time. A "Unit" means the unit on which Contractor, at its sole discretion, bases the pricing of its licenses and can be, without limitation, an agent, port or user, an e-mail or voice mail account in the name of a person or corporate function (e.g., webmaster or helpdesk), or a directory entry in the administrative database utilized by the Software that permits one user to interface with the Software. Units may be linked to a specific, identified Server or an Instance of the Software.

Database License (DL). End User may install and use each copy or an Instance of the Software on one Server or on multiple Servers provided that each of the Servers on which the Software is installed communicates with no more than an Instance of the same database.

CPU License (CP). End User may install and use each copy or Instance of the Software on a number of Servers up to the number indicated in the order provided that the performance capacity of the Server(s) does not exceed the performance capacity specified for the Software. End User may not re-install or operate the Software on Server(s) with a larger performance capacity without Contractor's prior consent and payment of an upgrade fee.

Named User License (NU). You may: (i) install and use the Software on a single Designated Processor or Server per authorized Named User (defined below); or (ii) install and use the Software on a Server so long as only authorized Named Users access and use the Software. "Named User," means a user or device that has been expressly authorized by Contractor to access and use the Software. At Contractor's sole discretion, a "Named User" may be, without limitation, designated by name, corporate function (e.g., webmaster or helpdesk), an e-mail or voice mail account in the name of a person or corporate function, or a directory entry in the administrative database utilized by the Software that permits one user to interface with the Software.

Shrinkwrap License (SR). You may install and use the Software in accordance with the terms and conditions of the applicable license agreements, such as "shrinkwrap" or "clickthrough" license accompanying or applicable to the Software ("Shrinkwrap License").

L. Heritage Nortel Software. "**Heritage Nortel Software**" means the Software that was acquired by Contractor as part of its purchase of the Nortel Enterprise Solutions Business in December 2009. The Heritage Nortel Software currently available for license from Contractor is the Software contained within the list of Heritage Nortel Products located at http://support.avaya.com/licenseinfo under the link "**Heritage Nortel Products**" or such successor site as designated by Contractor. For Heritage Nortel Software, Contractor grants Purchaser a license to use Heritage Nortel Software provided hereunder solely to the extent of the authorized activation or authorized usage level, solely for the purpose specified in the Documentation, and solely as embedded in, for execution on, or (in the event the applicable Documentation permits installation on non-Avaya equipment) for communication with Contractor equipment. Charges for Heritage Nortel Software may be based on extent of activation or use authorized as specified in an order or invoice.

M. Third Party Components. Certain software programs or portions thereof included in the Software may contain software (including open source software) distributed under third party agreements ("Third Party Components"), which may contain terms that expand or limit rights to use certain portions of the Software ("Third Party Terms"). As required, information regarding distributed Linux OS source code (for those Products that have distributed Linux OS source code) and identifying the copyright holders of the Third Party Components and the Third Party Terms that apply is available in the Products, Documentation or on Contractor's website at: http://support.avaya.com/Copyright. You agree to the Third Party Terms for any such Third Party Components.

N. (Intentionally Deleted)

O. Protection of Software and Documentation. End User acknowledges that the Software and Documentation are confidential information of Contractor and its suppliers and contain trade secrets of

Contractor and its suppliers. End User agrees at all times to protect and preserve in strict confidence the Software and Documentation using no less than the level of care End User uses to protect its own information of a confidential nature and to implement reasonable security measures to protect the trade secrets of Contractor and its suppliers.

P. Personal Data. The download or use of the Software may require the processing of personal data (including, but not limited to contact name, company address, company phone or fax, or company email) pertaining to your company or to your company's personnel. Such data will be used by Contractor for communication, administrative, and operational purposes related to the Software, including but not limited to tracking Software activations, communicating regarding trouble tickets and alarms, and providing Software updates. Personal data required to download or use the Software must be submitted to Contractor. Failing the submission of such data, the download or use of the Software may not be possible. You or your personnel have a right to access and correct erroneous personal data pertaining to you or your personnel and to object for legitimate reasons to the processing and transfer of this data. You can exercise this right by contacting in writing the Data Privacy Officer of the applicable Contractor Affiliate.

Q. High Risk Activities. The Software is not fault-tolerant and is not designed, manufactured or intended for any use in any environment that requires fail-safe performance in which the failure of the Software could lead to death, personal injury or significant property damage ("High Risk Activities"). Such environments include, among others, control systems in a nuclear, chemical, biological or other hazardous facility, aircraft navigation and communications, air traffic control, and life support systems in a healthcare facility. End User assumes the risks for its use of the Software in any such High Risk Activities.

R. Import/Export Control. End User is advised that the Software is of U.S. origin and subject to the U.S. Export Administration Regulations (EAR). The Software also may be subject to applicable local laws and regulations. Diversion contrary to U.S. and/ or applicable local country import/export law and/ or regulation is prohibited. You agree not to directly or indirectly export, re-export, import, download, or transmit the Software to any country, end user or for any use that is contrary to applicable U.S. and/ or local country regulation or statute (including but not limited to those countries embargoed by the U.S. government). You represent that neither the U.S. Bureau of Industry and Security (BIS) nor any other governmental agency has issued sanctions against End User or otherwise suspended, revoked or denied End User's export privileges. You agree not to use or transfer the Software for any use relating to nuclear, chemical or biological weapons, or missile technology, unless authorized by the U.S. and applicable local government by regulation or specific written license. Additionally, you are advised that the Software may contain encryption algorithm or source code that may not be exported to government or military end users without a license issued by the U.S. BIS and any other country's governmental agencies, where applicable.

S. U.S Government End Users. The Software is classified as "commercial computer software" and the Documentation is classified as "commercial computer software documentation" or "commercial items," pursuant to 48 CFR FAR 12.212 or DFAR 227.7202, as applicable. Any use, modification, reproduction, release, performance, display or disclosure of the Software or Documentation by the Government of the United States shall be governed solely by the terms of these Software License Terms and shall be prohibited except to the extent expressly permitted by these Software License Terms, and any use of

the Software and/ or Documentation by the Government constitutes agreement to such classifications and to these Software License Terms.

T. Acknowledgement. End User acknowledges that certain Software may contain programming that: (i) restricts, limits and/or disables access to certain features, functionality or capacity of such Software subject to the End User making payment for licenses to such features, functionality or capacity; or (ii) periodically deletes or archives data generated by use of the Software and stored on the applicable storage device if not backed up on an alternative storage medium after a certain period of time.

U. Miscellaneous. Intentionally Deleted

17.2 INTELLECTUAL PROPERTY RIGHTS.

17.2.1 Participating Entity Owns Participating Entity IP. Participating Entity reserves all rights, including, but not limited to, ownership, title, intellectual property rights and all other rights and interest in and to any computer programs (in object or source code format or any other form), know-how, inventions, processes, data bases, documentation, training materials and any other intellectual property and any tangible embodiments of it (collectively **"Intellectual Property"** or **"IP"**) Participating Entity, as applicable, owns and makes available to Contractor (collectively **"Participating Entity IP"**) under this Contract.

17.2.2 Contractor Owns Contractor IP. Contractor reserves all rights, including, but not limited to, ownership, title, and all other rights and interest in, and to, any Intellectual Property that Contractor owned prior to providing Services under the Contract, any Intellectual Property that Contractor develops, creates, or otherwise acquires independently of this Contract, and any Intellectual Property that Contractor develops, creates, or otherwise acquires (excluding Participating Entity IP) while performing Services under the Contract.

17.2.3 Participating Entity Ownership of Delivered Software. Upon the effective date of this Contract, neither party contemplates that the Participating Entity will order customized deliverables from Contractor that will result in the transfer of any ownership rights of Software or other proprietary data from Contractor to the Participating Entity. Prior to any obligation of Contractor to transfer such rights, a written amendment to this Contract shall be executed by authorized representatives of both parties expressly identifying the subject intellectual property and identifying the ownership rights that will be transferred.

18. NO WAIVER OF SOVEREIGN IMMUNITY In no event shall this Master Agreement, any Participating Addendum or any contract or any purchase order issued thereunder, or any act of a Lead State or a Participating Entity, be a waiver by the Participating Entity of any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court.

If a claim must be brought in a federal forum, then it must be brought and adjudicated solely and exclusively within the United States District Court for the Participating State. This section applies to a claim brought against the Participating State only to the extent Congress has appropriately abrogated the Participating State's sovereign immunity and is not consent by the Participating State to be sued in federal court. This section is also not a waiver by the Participating State of any form of immunity, including but not limited to sovereign immunity and immunity based on the Eleventh Amendment to the Constitution of the United States.

19. ORDER NUMBERS Contractor or each Fulfillment Partner shall utilize its standard method for generating acknowledgments, shipping labels, packing slips, invoices, and correspondence. PO number will only appear on invoices only if provided at time of order upload.

20. PARTICIPANTS WSCA-NASPO is the cooperative purchasing arm of the National Association of State Procurement Officials. It is a cooperative group contracting consortium for state government departments, institutions, agencies and political subdivisions (e.g., colleges, school districts, counties, cities, etc.,) for all 50 states, the District of Columbia and the organized US territories. Obligations under this Master Agreement are limited to those Participating States who have signed a Participating Addendum where contemplated by the solicitation. Financial obligations of Participating States are limited to the orders placed by the departments or other state agencies and institutions having available funds. Participating States incur no financial obligations on behalf of political subdivisions. Unless otherwise specified in the solicitation, the resulting award(s) will be permissive.

21. ENTITY PARTICIPATION Use of specific WSCA-NASPO cooperative Master Agreements by state agencies, political subdivisions and other entities (including cooperatives) authorized by individual state's statutes to use state contracts are subject to the approval of the respective State Chief Procurement Official. Issues of interpretation and eligibility for participation are solely within the authority of the respective State Chief Procurement Official.

22.INVOICING AND PAYMENT Unless otherwise provided in a valid Contractor or Fulfillment Partner quotation, proposal or Statement of Work, Contractor or Fulfillment Partner will invoice Purchaser for Products as follows: (i) non-Contractor installed Products invoiced 100% on the Delivery Date and (ii) Contractor installed Product invoiced as described in Section 34.4. Unless otherwise governed by local statute or regulation, payment of undisputed portions of invoices is due within 30 days from the date of invoice. Purchaser will inform Contractor or Fulfillment Partner in writing of any disputed portion of an invoice within 15 days from the date of Contractor's or Fulfillment Partner invoice. After 45 days the Contractor may assess overdue account charges up to a maximum rate of one percent per month on the outstanding balance. Payments will be remitted by mail. Payments may be made via a State or political subdivision "Purchasing Card" with no additional charge.

23. PUBLIC INFORMATION This Master Agreement and all Participating Addendums and related documents are subject to disclosure pursuant to the Participating Entity's public information laws.

24. RECORDS ADMINISTRATION AND AUDIT The Contractor or Fulfillment Partner will maintain, or supervise the maintenance of all records necessary to properly account for the payments made to the Contractor and Fulfillment Partner for costs authorized by this Master Agreement. These records will be retained by the Contractor and Fulfillment Partners for at least four years after the Master Agreement terminates, or until all audits initiated within the four years have been completed, whichever is later. The Contractor agrees and shall cause Fulfillment Partner's to agree to allow WSCA-NASPO, State and Federal auditors, and state agency staff access to all the records of this Master Agreement and any order placed under this Master Agreement, for audit and inspection, and monitoring of Services. Such access will be during normal business hours, or by appointment.

25.REPORTS and ADMINISTRATIVE FEES The Contractor shall submit quarterly reports to the WSCA-NASPO Contract Administrator showing the quantities and dollar volume of purchases by each Participating Entity.

The Contractor must pay a WSCA-NASPO administrative fee of one quarter of one percent (.25%) in accordance with the terms and conditions of the Master Agreement. The WSCA-NASPO administrative fee shall be submitted quarterly and is based on sales of Products and Services. The WSCA-NASPO administration fee is not negotiable. This fee is to be included as part of the pricing submitted with proposal.

Additionally, some Participating States may require that an additional fee be paid directly to the Participating State on purchases made by procuring entities within that Participating State. For all such requests, the fee level, payment method and schedule for such reports and payments will be incorporated in a Participating Addendum that is made a part of the Master Agreement. The Contractor may adjust the Master Agreement pricing accordingly for purchases made by procuring agencies within the jurisdiction of the Participating State. All such agreements may not affect the WSCA-NASPO administrative fee or the prices paid by the procuring agencies outside the jurisdiction of the Participating State requesting the additional fee.

26. STANDARD OF PERFORMANCE AND ACCEPTANCE Purchaser has thirty (30) days after Product delivery to inspect the Product for external damage and for any concealed damage ("Acceptance Period"). If external or concealed damage is revealed during the Acceptance Period, then Purchaser shall notify Contractor. At Contractor's option, Contractor shall 1) repair such damage, 2) ship a replacement, or 3) refund the purchase price (upon return of the Product). After such Acceptance Period the Products shall be deemed accepted.

26.1 In addition, the Purchasing Entity reserves the right to request an Acceptance Testing for the Product to be installed by Avaya in the form of a Deliverable (as defined in Section

34.1.1), Defined Objective (as defined in Section 34.1.1), or a Project Phase of up to thirty (30) calendar days after the Product is installed by Contractor and Contractor certifies that the Product is ready for Acceptance Testing. Purchasing Entities have the discretion to waive or decrease an Acceptance Testing.

When a Purchaser sets out a requirement for an Acceptance Test in an Order or SOW for a Deliverable then the Deliverable, Defined Objective or a Project Phase is deemed accepted upon the earlier of either: (i) the end of the Acceptance Testing set out in the Order or SOW for a Deliverable, Defined Objective, or Project Phase, unless Contractor or Fulfillment Partner has received from the Purchaser a rejection notice indicating in reasonable detail the material failure of the, Deliverable, Defined Objective or a Project Phase to conform to the criteria in the other Master Agreement Terms and Conditions (**"Rejection Notice"**); or (ii) Purchaser's signature on an acceptance certificate. If the, Deliverable, Defined Objective or a Project Phase fails to conform to the criteria in the other Master Agreement Terms and Conditions and Contractor or Fulfillment Partner has received a timely Rejection Notice, then Contractor or Fulfillment Partner will repair or replace the affected Deliverable or re-perform the respective Defined Objective or a Project Phase and re-submit the Deliverable, Phase or Defined Objective for acceptance as described above. If, after resubmission, Purchaser provides another Rejection Notice, then Purchaser remedies will be either to: (a) terminate the Order or SOW, return all non-conforming Deliverables, Defined Objectives or a Project Phase and receive a refund of fees paid under the Order or SOW as applicable; or (b) accept the, Deliverable, Defined Objective or a Project Phase subject to the warranties and remedies described in Section 30 for Products, Section 33.5 for Maintenance and Managed Services and Section 34.5 for Implementation and Professional Services.

26.2 Time and Material (T&M) Services. T&M Services are deemed accepted upon performance.

26.3 Acceptance certificate. Purchaser will sign and return an acceptance certificate without delay. Acceptance certificates may be provided by Purchaser to Contractor or Fulfillment Partner by electronic mail, at the email address provided by Contractor or Fulfillment Partner to Purchaser from time to time, or other agreed means of electronic communication.

26.4 Production Use. Unless otherwise provided for in a SOW, production use of a Product, Deliverable, Defined Objective or Phase will constitute acceptance for all purposes of this Agreement and Purchaser agrees to confirm its acceptance by signing an acceptance certificate promptly upon Contractor's or Fulfillment Partner's request.

27. SYSTEM FAILURE OR DAMAGE (Intentionally Deleted)

28. TITLE OF PRODUCT (Intentionally Deleted)

29. WAIVER OF BREACH Failure of Lead State or Participating Entity or Contractor to declare a default or enforce any rights and remedies shall not operate as a waiver under this Master Agreement or Participating Addendum. Any waiver by the Lead State or Participating Entity or Contractor must be in writing. Waiver by the Lead State or Participating Entity or Contractor of any default, right or remedy under this Master Agreement or Participating Addendum, or breach of any terms or requirements shall not be construed or operate as a waiver of any subsequent default or breach of such term or requirement, or of any other term or requirement under this Master Agreement or Participating Addendum.

30. WARRANTY

30. Contractor Global Product Warranty Policy for Purchasers

30.1 Scope of Policy

30.1.1 Contractor warrants to Purchaser that during the applicable warranty period the Products will conform to and operate in accordance with the applicable Documentation in all material respects.

30.1.2 This policy applies globally to all Contractor Products purchased by Purchasers directly from Contractor or Fulfillment Partner.

30.2 Standard Limited Warranty Period for Hardware

Unless otherwise stated specifically by Contractor, the following periods apply:

a) Twelve (12) months, beginning on the In-Service date, for Hardware purchased directly from and installed by Contractor.

b) Twelve (12) months, beginning on the Delivery Date, for all other Hardware purchased directly from Contractor or a Fulfillment Partner where Contractor or Fulfillment Partner does not install the Hardware.

30.3 Standard Limited Warranty Period for Software and Software Media

Unless otherwise stated specifically by Contractor or Fulfillment Partner, the following periods apply:

a) Ninety (90) days, beginning on the In-Service Date, for Software purchased directly from and installed by Contractor or Fulfillment Partner.

b) Ninety (90) days, beginning on the Delivery Date, for all other Software purchased directly from Contractor or a Fulfillment Partner where Contractor or Fulfillment Partner does not install the Software.

30.4 Select Product Lifetime Warranty

Contractor offers a lifetime warranty for select Avaya Data Solutions Products, as specified at Contractor's support site http://downloads.avaya.com/css/P8/documents/100148612. The lifetime warranty begins on the Delivery Date and ends five (5) years after the Product's end of sale date, as determined by Contractor.

30.5 Warranty Exclusions

The warranties do not extend to any damages, malfunctions, or non-conformities caused by (i) use of the Products in violation of the license granted by Contractor or in a manner inconsistent with the Documentation; (ii) normal wear due to Product use, including but not limited to Product cosmetics and display scratches; (iii) use of non-Contractor furnished equipment, software, or facilities with Products (except to the extent provided in the Documentation); (iv) failure to follow installation, operation or maintenance instructions; (v) failure to permit Contractor timely access, remote or otherwise, to Products; or (vi) failure to implement all new updates to Software. An "Update" is a change in the Software that provides corrective content for maintenance purposes only. Updates are generally available to Products under warranty and to subscribers to Contractor's Product support or maintenance services. Warranties do not extend to Products that have been altered (including alteration of serial numbers), serviced or modified by a party other than Contractor or a third party specifically authorized by Contractor to provide the service or modification.

30.6 Products from Third Parties

Contractor provides Third Party Products on an "AS IS" BASIS WITHOUT WARRANTIES OF ANY KIND unless Contractor specifies otherwise. However, such Third Party Products may carry their own warranties and Contractor shall pass through to Purchaser any such warranties to the extent authorized. Exercise of such warranty shall be directly between Purchaser and the third party manufacturer.

30.7 Toll Fraud

Contractor does not warrant that Products will prevent Toll Fraud. Prevention of Toll Fraud is the responsibility of Purchaser. The term "Toll Fraud" refers to the unauthorized use of telecommunications services or facilities accessed through or connected to the Products.

30.8 Warranty Procedures and Remedies

Purchasers who purchased the Product directly from Contractor should contact Contractor. Purchasers who purchased the Product from a Fulfillment Partner should contact the Fulfillment Partner for assistance in making warranty claims to Contractor. If a Product is not in conformance with the warranty above and Contractor receives a written notice during the applicable warranty period describing in reasonable detail how the Product failed to be in conformance, and including evidence that the Product is under warranty (i.e. a valid invoice, and in some cases this may also require Product registration with Contractor), Contractor at

its option will: (i) repair or replace the Product to achieve conformance and return the Product; or (ii) refund the applicable price upon return of the non-conforming Product to Contractor or Fulfillment Partner. For Software warranty, Contractor provides access to available software corrective content and product support knowledge base on a self-service basis. Replacement Hardware may be new, factory reconditioned, refurbished, re-manufactured or functionally equivalent and will be furnished only on an exchange basis. Returned Hardware that has been replaced by Contractor will become Contractor's property. Replacement Products are warranted as above for the remainder of the original applicable Product warranty period. THESE REMEDIES WILL BE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES AND WILL BE IN LIEU OF ANY OTHER RIGHTS OR REMEDIES PURCHASER MAY HAVE AGAINST CONTRACTOR OR FULFILLMENT PARTNER WITH RESPECT TO THE NONCONFORMANCE OF PRODUCTS.

30.9 Disclaimers

EXCEPT AS REFERENCED AND LIMITED IN THIS AGREEMENT, NEITHER CONTRACTOR NOR ITS FULFILLMENT PARTNERS, LICENSORS OR SUPPLIERS MAKES ANY EXPRESS REPRESENTATIONS OR WARRANTIES WITH REGARD TO ANY PRODUCTS. CONTRACTOR DOES NOT WARRANT UNINTERRUPTED OR ERROR FREE OPERATION OF PRODUCTS OR THAT THE PRODUCTS WILL PREVENT TOLL FRAUD. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, CONTRACTOR DISCLAIMS ALL IMPLIED OR STATUTORY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THE WARRANTY REMEDIES EXPRESSLY PROVIDED IN THIS DOCUMENT WILL BE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES.

30.10 General

30.10.1 This policy applies to all Products sold under the Contractor brand including heritage Nortel products, and combines and supersedes all earlier versions.

30.10.2 To the extent there is a conflict between this policy and an agreement between Purchaser and Fulfillment Partner, the terms of the Agreement will prevail.

30.10.3 If any provision of this policy is determined to be unenforceable or invalid by court decision, the policy will not be rendered unenforceable or invalid as a whole, and the provision will be changed and interpreted so as to best accomplish the objectives of the original provision within the limits of applicable law.

30.10.4 Contractor is not responsible for any warranty, support or maintenance commitments made by Fulfillment Partner that may differ from what is set out in this Agreement.

30.11 Definitions (Moved to Section 35)

30.12 More Information

For additional information about Contractor Product Warranties please refer to the following website:

https://support.avaya.com/helpcenter/getGenericDetails?detailId=C20091120112456651010

30.13. Beta Software. The above warranty DOES NOT apply to any beta software, any software made available for testing or demonstration purposes, any temporary software modules or any software for which Contractor does not receive a license fee. All such software is provided AS IS without any warranty whatsoever.

31. ASSIGNMENT OF ANTITRUST RIGHTS (Intentionally Deleted)

32. WSCA-NASPO eMARKET CENTER Awarded responders are required to participate in the WSCA-NASPO eMarket Center and, working through WSCA-NASPO's contractor (SciQuest), connect with the eMarket Center. The ideal situation would be to use either a hosted (by SciQuest) or Punchout Level 2 catalog configurations, but actual requirements will be determined by the Lead State Contract Administrator, WSCA-NASPO, WSCA-NASPO's contractor (SciQuest) and the awarded contractor, after award. Participation does not require an awarded responder to have any special level of technology or technological understanding.

33. CONTRACTOR MAINTENANCE, MANAGED SERVICES AND SUBSCRIPTION SERVICES TERMS. These Maintenance, Managed Services and Subscription Terms ("Services Terms") apply if and to the extent Purchaser acquires Maintenance, Managed Services and/or Subscription Services directly from Contractor or through a Fulfillment Partner.

33.1. ORDER, PROVISION AND SCOPE OF SERVICES

33.1.1 Order and Provision of Services. In return for the payment of the applicable fees and subject to compliance with applicable terms of this Agreement, Contractor will provide the Maintenance, Managed Services and Subscription Services options for Supported Products at location (s) covered under this Agreement ("Supported Sites"), as described further in this Section 33 and the Service Description (for purposes of this Attachment, "Service"). "Service Description" means (a) the applicable Contractor service agreement supplement **("Service Agreement Supplement" or "SAS")** or service description document **("Service Description Document" or "SDD")** then current as of the date of Contractor's acceptance of an Order for Services and available to the Purchasing Entity upon request; and/or (b) a Statement of Work ("SOW") executed by the parties describing specific Services to be provided by Contractor, as applicable. In the event of a conflict between the S Service Description and this Agreement, this Agreement will govern..

33.1.2 "Supported Products" are: (i) hardware or Software Products (including Avaya supplied and non-Avaya supplied products) identified in the order or Service Description; and (ii) Added Products (defined in Section 33.1.9

33.1.3 Documents and Order of Precedence. For the purpose of Contractor's Services Terms provided to Participating Entity pursuant to this Section only, in the event of a conflict among the other Master Agreement Terms and Conditions, the order of precedence shall be: (i) these Services Terms (Section 33); (ii) the SOW; (iii) SAS and/or SDD; and (iv) ancillary documents, except that in relation to licensing provisions, intellectual property rights and intellectual property rights indemnification, the provisions contained in the other Master Agreement Terms and Conditions, including the terms of any Participating Addendum will always take priority.

33.1.4 Monitoring. Contractor may electronically monitor Supported Products for the following purposes: (i) remote diagnostics and corrective actions; (ii) to determine system configuration and applicable charges; (iii) to verify compliance with applicable Software license terms and restrictions; (iv) when providing managed Services, to assess Purchasing Entity needs for additional Products or Services; (v) as otherwise provided in the Service Description.

33.1.5 Incident Correction. Some Services options may include correction of Incidents. An "Incident" means a failure of a Supported Product to conform in all material respects to the manufacturer's specifications that were currently applicable when the Supported Product was purchased or licensed.

33.1.6 Help Line Support. Where the selected Services option includes help line support, Contractor will provide it in accordance with the coverage option (service hours, target response intervals, etc.) that Purchasing Entity has selected to purchase.

33.1.7 End of Support. Periodically, Contractor or a third party manufacturer may declare "end of life," "end of service," "end of support," "manufacture discontinue" or similar designation ("End of Support") for certain Supported Products. Purchasing Entity may access Contractor's user support website (http://support.avaya.com), or such successor site as designated by Contractor, for End of Support notifications, and to register an e-mail address to receive e-mail notifications of the same, when published by Contractor. For Products subject to End of Support, Contractor will continue to provide the support described in the applicable SAS, except for the End of Support exceptions listed therein ("Extended Support"). If the SAS or Service Description does not include Extended Support information, Contractor will make available the description of Extended Support (if available) for the Products concerned at the same time as its End of Support notification. For Products not subject to Extended Support, if Services are discontinued for a Supported Product, the Supported Product will be removed from the Order and rates will be adjusted accordingly.

33.1.8 Replacement Hardware. Replacement hardware provided as part of Services may be new, factory reconditioned, refurbished, re-manufactured or functionally equivalent. It will be furnished only on an exchange basis. Returned hardware that has been replaced by Contractor will become Contractor's property. Title to Contractor-installed replacement

hardware provided as part of Services will pass to Purchasing Entity when installed. Title to all other hardware provided as part of Services will pass to Purchasing Entity when it arrives at the Supported Site.

33.1.9 Added Products. If Purchasing Entity acquires additional Products of the same type and manufacturer(s) as the existing Supported Products and locates them with existing Supported Products at a Supported Site, they will be considered "Added Products", and will be added to the Order automatically for the remainder of the term. Added Products purchased from a party other than Contractor or Fulfillment Partner are subject to certification by Contractor at Contractor's then current Services rates. If Added Products fail certification, Contractor may choose not to add them to the Supported Products.

33.1.10 General Limitations. Unless the Service Description provides otherwise, Contractor will provide Software Services only for the unaltered current release of the Software and the prior release. The following items are included in the Services only if the Service Description specifically includes them: (i) support of user-defined applications; (ii) support of Supported Products that have been modified by a party other than Contractor (except for installation of standard, self-installed updates provided by the manufacturer); (iii) making corrections to user-defined reports; (iv) data recovery services; (v) services associated with relocation of Supported Products; (vi) correction of Incidents arising from causes external to the Supported Products (such as power failures or surges); and (vii) services for Supported Products that have been misused, used in breach of their license restrictions, improperly installed or configured, or that have had their serial numbers altered, defaced or deleted

33.2 INVOICING AND PAYMENT

Contractor will invoice Purchasing Entity for Services in advance unless another payment option is specified in the Order or as otherwise specified in the SAS or Service Description.

33.3 PURCHASING ENTITY RESPONSIBILITIES

33.3.1 General. Purchasing Entity will cooperate with Contractor as reasonably necessary for Contractor's performance of its obligations, such as: (i) providing Contractor with full, free and safe access to its facilities; (ii) providing telephone numbers, network addresses and passwords necessary for remote access; and (iii) providing interface information for Supported Products and necessary third party consents and licenses to access them. All items will be provided by Purchasing Entity at Purchasing Entity's expense. If Contractor provides New release of Software as part of the Services, Purchasing Entity will implement it promptly.

33.3.2 Provision of Supported Products and Systems. Except for Contractor hosted facilities identified in the SAS Purchasing Entity will provide all Supported Products, Supported Systems and Supported Sites. Purchasing Entity continuously represents and warrants that: (i) Purchasing Entity is either the owner of, or is authorized to access and use, each of them; and

(ii) Contractor, its suppliers, and subcontractors are authorized to do the same to the extent necessary to provide the Services in a timely manner.

33.3.3 Moves of Supported Products. Purchasing Entity will notify Contractor in advance before moving Supported Products. Contractor may charge additional amounts to recover additional costs in providing the Services as a result of moved Supported Products.

33.3.4 Vendor Management. Where Contractor is to instruct or request products or services on Purchasing Entity's behalf from third party vendors under Purchasing Entity's supply contracts with the third party vendors ("Vendor Management"), Purchasing Entity will provide Contractor upon request a letter of agency or similar document, in a form reasonably satisfactory to Contractor, permitting Contractor to perform the Vendor Management. Where the third party vendor's consent is required for Contractor to be able to perform Vendor Management in a timely manner, Purchasing Entity will obtain the written consent of the vendor and provide Contractor a copy of it upon request.

33.3.5 Third Party Hosting. In the event one or more network address(es) to be monitored by Contractor are associated with systems owned, managed, and/or hosted by a third party service provider ("Host"), Purchasing Entity will: (i) notify Contractor of the Host prior to commencement of the Services; (ii) obtain the Host's advance written consent for Contractor to perform the Services on the Host's computer systems and provide Contractor with a copy of the consent upon request; and (iii) facilitate necessary communications between Contractor and the Host in connection with the Services.

33.3.6 Access to Personal Data. From time to time, Purchasing Entity may require Contractor to access a Supported Product containing employee, customer or other individual's personal data (collectively, "Personal Data"). Where Purchasing Entity instructs Contractor to access any Personal Data or to provide Purchasing Entity or a third party identified by Purchasing Entity with access, Contractor and Purchasing Entity will define the rights and obligations in the Participating Addendum or Order.

33.4 SOFTWARE LICENSE

Where Services include provision of patches, updates or feature upgrades for Supported Products ("New Software"), they will be provided subject to the license grant and restrictions contained in the original agreement under which Purchasing Entity licensed the original Software from Contractor. Where there is no existing license from Contractor, New Software will be provided subject to Agreement Section 17.1. New Software may include components provided by third party suppliers that are subject to their own Purchaser license agreements. Purchasing Entity may install and use these components in accordance with the terms and conditions of the "shrinkwrap" or "clickthrough" Purchaser license agreement accompanying them.

33.5 WARRANTY AND DISCLAIMER

33.5.1 Warranty. Contractor warrants to Purchasing Entity that Services will be carried out in a professional and workmanlike manner by qualified personnel.

33.5.2 Remedy. If Services are not in conformance with the above warranty and Contractor receives Purchasing Entity's detailed request to cure a non-conformance within 30 days of its occurrence, Contractor will re-perform those Services. If Contractor fails to achieve such conformance within thirty (30) days of receiving Purchasing Entity's written notice, Purchasing Entity may cancel the applicable Order with respect to future Services. Upon cancellation, Purchasing Entity will be entitled to receive a proportionate refund of any prepaid fees applicable to future Services. These remedies will be Purchasing Entity's sole and exclusive remedies and will be in lieu of any other rights or remedies Purchasing Entity may have against Contractor with respect to the non-conformance of Services.

33.5.3 Disclaimer. Services provided to enhance network security are not a guaranty against malicious code, deleterious routines, and other techniques and tools employed by computer "hackers" and other third parties to create security exposures. Neither Contractor nor its suppliers make any warranty, express or implied, that all security threats and vulnerabilities will be detected or that the Services will render an Purchaser's network or particular network elements safe from intrusions and other security breaches.

33.6 TERM AND TERMINATION

33.6.1 Term. Unless a different term is identified in an Order or mandated in the applicable Service Description or SOW, Contractor will provide Services for an initial term of one year. Unless otherwise specified in the SAS, SOW or Service Description, Purchasing Entity may terminate Services in whole or in part; (i) for Maintenance and Subscription Services (identified on the order documentation) upon 30 days written notice subject to cancellation fees equal to Service fees for 12 months or the remaining term, whichever is less, or (ii) for Managed Services (or "Avaya Operations Services" or equivalent) as identified on the order documentation, upon 60 days advance written notice subject to fees of 75% of the monthly revenue commitment of the Services fees times the remaining months in the term. If termination is for non-appropriation of funds, as such concept is provided for in the Participating Addendum, Purchasing Entity will pay for Services performed up to the date of termination. Cancellation fees will not be assessed to the Participating Entity if an Order, this Master Agreement, or Participating Addendum is canceled with cause or default by Contractor.

33.6.2. Termination Notice. Purchasing Entity's written notice of termination must be sent by: (i) letter via certified mail to the following address: Avaya Inc., Customer Care Center, 14400 Hertz Quail Spring Pkwy, Oklahoma City, OK 73134 Attn: Services Termination; (ii) email to mycontract@avaya.com; or (iii) fax to 800-444-6371.

33.7 PURCHASING ENTITY RESPONSIBILITIES. Purchasing Entity will cooperate with Contractor as reasonably necessary, including as specified in this Agreement, for Contractor's

delivery of Products and performance of Services in a timely manner. Purchasing Entity will provide Contractor with interface and other information regarding access to third party products in Purchasing Entity's network and necessary third party consents and licenses to enable Contractor's performance under the Agreement. Purchasing Entity is responsible for ensuring that its networks and systems are adequately secured against unauthorized intrusion or attack and regularly backing up its data and files in accordance with good data retention and security practices. Purchasing Entity will reasonably use, safeguard and return to Contractor any items that Contractor loans or makes available to Purchasing Entity ("**Contractor Tools**") for the purpose of providing Services under this Agreement, such as, but not limited to, the Secure Intelligent Gateway. Purchasing Entity will be responsible for the custody and care of the Contractor Tools until returned to Contractor. Contractor Tools shall not be considered Products as that term is defined in this Master Agreement. If Purchasing Entity fails to meet its cooperation obligations under this Section or as otherwise provided in the Agreement, Contractor may delay or suspend its delivery of Products or performance of Services relating to Purchasing Entity's failure.

34. CONTRACTOR'S IMPLEMENTATION AND PROFESSIONAL SERVICES TERMS. These Implementation & Professional Services Terms apply if and to the extent Implementation & Professional Services are acquired under this Agreement.

34.1 SCOPE; ORDER OF PRECEDENCE; CHANGES

34.1.1 Services Provided. Contractor will provide the Services described in this paragraph ("**Implementation & Professional Services**") as specified in an Order and as may be further described in a Statement of Work executed by both parties. Implementation & Professional Services can include installation and configuration of Products, consulting and other services where Contractor delivers customized Software, hardware, documentation, or other work ("**Deliverables**") and/or completes a defined phase of Professional Services ("Project Phase") other defined objectives ("**Defined Objectives**") on a milestone basis or on a time and material basis ("**T&M Services**", as further defined below). T&M Services are Implementation & Professional Services provided on a time and materials basis in exchange for hourly, daily or monthly fees and expense reimbursements calculated on the basis of Contractor service records. Deliverables do not include generally available hardware and Software and are not Products. To the extent an SOW provides that Contractor will deliver Products, the terms for Supply of Products as set out in the Agreement will apply to those Products. Implementation & Professional Services do not include Maintenance Services or Managed Services or Subscription Services which are available for purchase under Section 33.

34.1.2 Order of Precedence. For the purpose of Contractor's Implementation and Professional Services provided to Purchasing Entity pursuant to this Section 34 only, in the event of a conflict among the other Master Agreement Terms and Conditions, the order of precedence shall be: (i) these Implementation & Professional Services Terms (Section 34); (ii) any SOW; and (iii) ancillary documents; except that in relation to, licensing provisions,

intellectual property rights and intellectual property rights indemnification, the provisions contained in the other Master Agreement Terms and Conditions, including the terms of any Participating Addendum will always take priority.

34.1.3 Changes. Changes in Implementation & Professional Services will be made in accordance with Contractor's change process defined in the SOW.

34.2 ACCEPTANCE (Intentionally Deleted – See Section 26)

34.3 TRANSFER OF RISK; TITLE; LICENSE TO DELIVERABLES

34.3.1 Transfer of Risk and Title. Title to hardware components of Deliverables will pass to Purchasing Entity upon acceptance. Risk of loss will pass to Purchasing Entity when the Deliverable arrives on Purchasing Entity's premises.

34.3.2 Purchasing Entity's License to Deliverables. Subject to Purchasing Entity's payment of fees for the Services, Contractor grants Purchasing Entity a non-exclusive, non-transferable, limited, non-sublicenseable license to use Deliverables created by Contractor and delivered to Purchasing Entity. Software contained in Deliverables will be licensed subject to Agreement Section 17.1.

34.4 INVOICING AND PAYMENT

34.4.1 Unless otherwise provided in a valid Contractor quotation, proposal or SOW, Contractor will invoice Purchasing Entity for Products and Services included in a SOW (excluding any Services to be billed monthly or Custom Application Support Services) as follows:

34.4.1.1 Where the total fees exceed $100,000, 50% of the total project value invoiced upon shipment of the Products and the remaining fees invoiced on the In-Service Date;

34.4.1.2 Where the total fees are less than $100,000, as of the effective date of the SOW, the total project value invoiced on the In-Service Date.

34.4.2 For Services-only orders: (i) for Implementation & Professional Services other than T&M Services, invoiced on completion of the Services or as set out in the SOW, or (ii) for T&M Services, invoiced monthly in arrears.

34.4.3 Notwithstanding anything in this Agreement to the contrary, Contractor will invoice Purchasing Entity for a Project Phase including any Products provided within that Project Phase upon acceptance of that Project Phase pursuant to Agreement Section 26.1.

34.5 WARRANTY

34.5.1 Warranty Period. The warranty period for Implementation & Professional Services and Deliverables will be 30 days beginning on the acceptance or deemed acceptance date of the Deliverables or the Defined Objective or the Project Phase (the **"Warranty Period"**).

34.5.2 Warranty. During the Warranty Period, Contractor warrants to Purchasing Entity that (i) Implementation & Professional Services will be carried out in a professional and workmanlike manner by qualified personnel; and (ii) Deliverables will conform in all material respects to the specifications contained in the SOW. However, Contractor does not warrant that Software contained in the Deliverables will perform uninterrupted or error-free.

34.5.3 Remedies.

34.5.3.1 Implementation & Professional Services. To the extent that Contractor has not performed Implementation & Professional Services in accordance with the above warranty (**"Non Conformity")** and Contractor receives written notice from Purchasing Entity within the Warranty Period that identifies the Non-Conformity in reasonable detail and requests Contractor cure the Non-Conformity, Contractor will re-perform the applicable Services or the Project Phase or if Contractor determines that re-performance is not commercially reasonable, either (i) refund to Purchasing Entity the fees for the Non-Conforming Implementation & Professional Services or the Project Phase; or (ii) in the case of T&M Services, Purchasing Entity may cancel the affected T&M Services, subject to payment of fees for T&M Services already performed.

34.5.3.2 Deliverables from Implementation & Professional Services. If Contractor receives from Purchasing Entity within the Warranty Period a written notice describing in reasonable detail how the Deliverables failed to be in conformance with the above warranty, Contractor will, at its option, repair or replace the non-conforming Deliverables, or refund to Purchasing Entity the applicable fees upon return of the non-conforming Deliverables.

34.5.3.3 Exclusive Remedies. THE REMEDIES SET FORTH IN THIS SECTION 34.5.3 WILL BE PURCHASING ENTITY'S SOLE AND EXCLUSIVE REMEDIES AND WILL BE IN LIEU OF ANY OTHER RIGHTS OR REMEDIES PURCHASING ENTITY MAY HAVE AGAINST CONTRACTOR WITH RESPECT TO THE NON-CONFORMANCE OF IMPLEMENTATION & PROFESSIONAL SERVICES, ANY PROJECT PHASE AND/OR DELIVERABLES.

34.5.4 Disclaimer. Services provided to enhance network security are not a guaranty against malicious code, deleterious routines, and other techniques and tools employed by computer "hackers" and other third parties to create security exposures. Neither Contractor nor its suppliers make any warranty, express or implied, that all security threats and vulnerabilities will be detected or that the Services will render an Purchaser's network or particular network elements safe from intrusions and other security breaches.

34.6 TERM AND TERMINATION

34.6.1 Term. The term of a SOW will begin on the date specified in the SOW or Order if any, or on the date executed by the last party to sign the SOW. The term of the SOW will continue until the work is completed or the SOW is terminated earlier in accordance with this Section.

34.6.2 Termination. Unless otherwise provided in the SOW, either party may terminate Implementation & Professional Services or any Project Phase upon 45 days prior written notice, and Purchasing Entity will pay for Services performed to the date of termination and all non-refundable or non-terminable out-of-pocket expenses Contractor incurred.

34.7 PURCHASING ENTITY RESPONSIBILITIES. Purchasing Entity will cooperate with Contractor as reasonably necessary, including as specified in this Agreement, for Contractor's delivery of Products and performance of Services in a timely manner. Purchasing Entity will provide Contractor with interface and other information regarding access to third party products in Purchasing Entity's network and necessary third party consents and licenses to enable Contractor's performance under the Section 34. Purchasing Entity is responsible for ensuring that its networks and systems are adequately secured against unauthorized intrusion or attack and regularly backing up its data and files in accordance with good data retention and security practices. Purchasing Entity will reasonably use, safeguard and return to Contractor any items that Contractor loans or makes available to Purchasing Entity (**"Contractor Tools"**) for the purpose of providing Services under this Section 34, such as, but not limited to, the Secure Intelligent Gateway. Purchasing Entity will be responsible for the custody and care of the Contractor Tools until returned to Contractor. Contractor Tools shall not be considered Products as that term is defined in this Master Agreement. If Purchasing Entity fails to meet its cooperation obligations under this Section 34 or as otherwise provided in the Agreement, Contractor may delay or suspend its delivery of Products or performance of Services relating to Purchasing Entity's failure.

35. DEFINITIONS

Acceptance - means either: i) when a Project Closure Form is signed by a Purchaser advising Contractor that the Order for Product and Contractor's Implementation and/or Professional Services has successfully completed its Acceptance Testing; or ii) for Product only Orders, as provided in Section 26.1, for which an Acceptance Testing is not required, Acceptance shall occur upon delivery of Products to applicable Purchaser.

Acceptance Testing - means the successful completion of the Acceptance Testing set out pursuant to WSCA-NASPO Master Terms and Conditions Section 26.

Contractor - means Avaya Inc. ("Avaya"), its employees and agents. Contractor also includes any Fulfillment Partner, firm, provider, organization, individual, or other entity performing the business activities under this Agreement authorized by and on behalf of Contactor. It shall also include any Subcontractor retained by Contractor as permitted under the terms of this Agreement.

Deliverable means, with respect to each SOW, the items specified as deliverables in the SOW.

Delivery Date means the date on which Contractor or Fulfillment Partner, as the case may be, delivers the Products to Purchaser, or in the case of Software features that are enabled by license files, software activations or any other electronic means, “Delivery Date” means the date when the Product or Product features are enabled in Contractor’s license management systems.

Documentation means information published by Contractor in varying mediums which may include product information, operating instructions and performance specifications that Contractor generally makes available to users of its Products. Documentation does not include marketing materials.

Embedded Software - means one or more software applications which permanently reside on a computing device.

Fulfillment Partner (also referred to as "Reseller") shall mean a Contractor authorized reseller approved by the Participating State under a Participating Addendum, who may, to the extent authorized by Contractor, fulfill any of the requirements of this Agreement including but not limited to providing Products and Services under this Agreement at the prices established in this Agreement and billing Purchasers directly for such Products and Services. Contractor may, upon written notice to the Participating State, add or delete authorized Fulfillment Partners as necessary at any time during the Term of the Agreement. Fulfillment Partner has no authority to amend this Agreement or to bind Contractor to any additional terms and conditions.

Hardware means the standard hardware products that Purchaser orders and Contractor or Fulfillment Partner delivers. Hardware does not include any customized deliverables that Contractor creates specifically for Purchaser.

In-Service Date means the date of notification to Purchaser that the Products are installed in good working order in accordance with applicable Documentation.

Intellectual Property – means any and all patents, copyrights, service marks, trademarks, trade secrets, trade names, patentable inventions, or other similar proprietary rights, in tangible or intangible form, and all rights, title, and interest therein.

Lead State - means the State conducting this cooperative solicitation and centrally administering any resulting Master Agreement with the permission of the signatory states.

Local Public Body shall mean a political subdivision of the Participating State, and the agencies, public instrumentalities and institutions thereof, including, without limitation, all cities, towns, counties, courts, special districts, and educational institutions (K-12 or higher education).

Machine Code – means microcode, basic input/output system code, utility programs, device drivers, diagnostics, and another code delivered with a computing device for the purpose of enabling the function of the computing device, as stated in its published specifications.

Milestone means a specific goal, objective or event pertaining to installation and implementation Services described under the terms of the SOW.

Order - means any purchase order, sales order, or other document used by a Participating Entity to order the Products and/or Services to be purchased from Contractor or Fulfillment Partner, the issuance of which document shall be deemed to constitute Purchaser's acceptance of and agreement to be bound by the terms of this Agreement and the applicable Participating Addendum.

Participating Addendum – shall mean a written bilateral agreement executed by and between Contractor and a Participating Entity expressly incorporates the terms of this WSCA-NASPO Master Agreement and any other additional mutually agreeable Participating Entity specific language or other requirements, e.g. ordering procedures specific to the Participating Entity, other terms and conditions, as set forth in the Participating Addendum. Upon execution, the term WSCA-NASPO Master Agreement will be deemed to incorporate the Participating Addendum for Participating States.

A Local Public Body may execute a Participating Addendum in its own name (and independent of whether the state in which it is located itself executes a Participating Addendum) only with the express, written approval of Contractor and the WSCA-NASPO Contract Manager. In such event, the Local Public Body will be deemed to have accepted and assumed the rights and obligations of a "Participating State", "Purchasing Entity" under its Participating Addendum.

Participating Entity - means a state, or other legal entity, properly authorized by a state to enter into the Master Agreement or Participating Addendum or who is authorized to order under the Master Agreement or Participating Addendum.

Participating State – See "Participating Entity" shall mean a member of WSCA authorized under state law to participate under this Agreement who subsequently executes a *Participating Addendum,* or any other state or Local Public Body authorized by the WSCA Contract Manager and Contractor to be a party to the resulting Agreement who subsequently executes a *Participating Addendum.* "Participating State" shall be deemed to refer to the State of Utah when acting as a Participating State in its sovereign capacity (and not in its capacity as the WSCA Contract Manager).

Phase - Where Milestones include: a) separately functional solutions that are not dependent upon the completion of a future solution, b) represent a solution that Contractor does and can sell separately, c) be functionally independent; d) be accepted by the Purchaser without regard to the success of other Milestones, or e) no refund rights apply, then Contractor and Purchaser may agree to **"Phase"** the Milestones. When Phased Milestones is determined to apply and mutually agreed to by the parties, the following Phasing clause shall apply:

> **Phasing Clause**: Purchaser agrees the delivery, installation, testing, acceptance and payment for the equipment installed and Services rendered under any one Phase is not dependent on the delivery, installation, testing, acceptance and payment for equipment and Services under any other Phase. Purchaser further agrees and

acknowledges its intent that the Products and Services delivered under any one phase constitute a fully functional system not dependent on the Products and Services of any other phase. The warranty period for each Phase will commence upon the In-Service Date for that Phase. Payment for each Phase is due within the applicable payment period following the In-Service Date of that Phase.

Product - Any equipment or Hardware, Software (including embedded software), Documentation, or deliverable supplied or created by the Contractor pursuant to this Master Agreement and listed in Contractor's then-current price list.

Purchaser is a Purchasing Entity (may also be referred to as "**Customer**") shall mean: (a) the State of Utah when acting as a Participating State in its sovereign capacity (and not as the WSCA Contract Manager), (b) any office, department, commission, council, board, committee, institution, legislative body, agency, public authority, public benefit corporation, other government corporation or public educational institution of a Participating State or a Local Public Body within such Participating State, provided that such entity is authorized, under applicable laws, rules and/or regulations of the Participating State, (i) to purchase Product(s) and Services pursuant to this Agreement solely by execution of the applicable *Participating Addendum,* and (ii) to legally bind such body to the terms of such agreement solely by the issuance of a Purchase Order, Order or Order Document in accordance with and pursuant to this Agreement, and (iii) has been authorized by the WSCA Contract Manager and Contractor to participate under this WSCA Master Agreement.

Services shall mean those services within the scope of Sections 33 and 34, and listed on Contractor's then-current Price List, including but not limited to Implementation and Professional Services, Maintenance and Managed Services, training, and/or other services related to the Products being acquired and further described at Contractor's website www.Avaya.com and which are subject to the terms of service set forth in Section 33 (Maintenance and Managed Services) and Section 34 (Implementation and Professional Services).

Software means the computer programs in object code form that Purchaser Orders and Contractor or Fulfillment Partner delivers, whether as stand-alone products or pre-installed on Hardware. Software does not include any customized deliverables that Contractor creates specifically for Purchaser.

Statement of Work or SOW means a document agreed upon by the Purchaser and Contractor that defines the installation and implementation Services Deliverables, Project Phase and Defined Objective, if any, to be provided thereunder.

Subcontractor shall mean one not in the employment of Contractor, who is performing all or part of the business activities under this Agreement under a separate subcontract with Contractor or its Fulfillment Partners. The term "Subcontractor" means Subcontractor(s) of Contractor or its Fulfillment Partners provided, however, that subcontractor(s) may not receive Orders, invoice, or receive payments directly from Purchasers.

Third Party Products means any products manufactured by a party other than Contractor, and may include, without limitation, products ordered by Purchaser from third parties pursuant to Contractor's recommendations. However, components of Contractor-branded Products are not Third Party Products if they are both: (i) embedded in Products (i.e., not recognizable as standalone items); and (ii) not identified as separate items on Contractor's price list, quotes, order specifications forms or Documentation.

WSCA-NASPO Contract Manager or **Contract Manager** shall mean the individual state member designated as the contract manager by WSCA-NASPO, currently the State of Utah, as responsible for the legal maintenance and administration of this WSCA Master Agreement, notices, reports and any other pertinent documentation or information.

WSCA-NASPO - is a cooperative group contracting consortium for state procurement officials, representing departments, institutions, agencies, and political subdivisions (i.e., colleges, school districts, counties, cities, etc.) for all states and the District of Columbia. WSCA-NASPO is a cooperative purchasing arm of the National Association of State Procurement Officials (NASPO).

WSCA-NASPO Master Agreement (Also referred to as "Agreement" or "Contract") means the underlying agreement executed by and between the Lead State, as WSCA-NASPO Contract Manager or administrator, acting on behalf of WSCA-NASPO, and the Contractor, as now or hereafter amended.

(revised November 2014)

ATTACHMENT B – Scope of Work

The following categories are authorized under this contract:

5.2.2 NETWORKING SOFTWARE — Software that runs on a server and enables the server to manage data, users, groups, security, applications, and other networking functions. The network operating system is designed to allow shared file and printer access among multiple computers in a network, typically a local area network (LAN), a private network or to other networks. Networking software capabilities should include:

Restartable Process

High availability options

Targeted operating systems, i.e. DC, campus, core, wan, etc.

Operating System Efficiencies

5.2.2.1 Network Management and Automation — Software products and solutions for data center automation, cloud computing, and IT systems management.

5.2.2.2 Data Center Management and Automation — Software products and solutions that capture and automate manual tasks across servers, network, applications, and virtualized infrastructure.

5.2.2.3 Cloud Portal and Automation — Software products and solutions for cloud management with policy-based controls for provisioning virtual and physical resources.

5.2.2.4 Branch Office Management and Automation — Software products and solutions for management of branch offices. Capabilities include remote troubleshooting, device management, WAN performance monitoring.

5.2.4 OPTICAL NETWORKING — High capacity networks based on optical technology and components that provide routing, grooming, and restoration at the wavelength level as well as wavelength based services.

5.2.4.1 Core DWDM (Dense Wavelength Division Multiplexing) Switches — Switches used in systems designed for long haul and ultra long-haul optical networking applications.

5.2.4.2 Edge Optical Switches — Provide entry points into the enterprise or service provider core networks.

5.2.4.3 Optical Network Management — Provides capabilities to manage the optical network and allows operators to execute end-to-end circuit creation.

5.2.4.4 IP over DWDM (IPoDWDM) — A device utilized to integrate IP Routers and Switches in the OTN (Optical Transport Network).

5.2.5 ROUTERS — A device that forwards data packets along networks. A router is connected to at least two networks, commonly two LANs or WANs or a LAN and its ISP's network. Routers are located at gateways, the places where two or more networks connect, and are the critical device that keeps data flowing between networks and keep the networks connected to the Internet.

5.2.5.1 Branch Routers — A multiservice router typically used in branch offices or locations with limited numbers of users and supports flexible configurations/feature. For example: security, VoIP, wan acceleration, etc.

5.2.5.2 Network Edge Routers — A specialized router residing at the edge or boundary of a network. This router ensures the connectivity of its network with external networks, a wide area network or the Internet. An edge router uses an External Border Gateway Protocol, which is used extensively over the Internet to provide connectivity with remote networks.

5.2.5.3 Core Routers - High performance, high speed, low latency routers that enable Enterprises to deliver a suite of data, voice, and video services to enable next-generation applications such as IPTV and Video on Demand (VoD), and Software as a Service (SaaS).

5.2.5.4 Service Aggregation Routers — Provides multiservice adaptation, aggregation and routing for Ethernet and IP/MPLS networks to enable service providers and enterprise edge networks simultaneously host resource-intensive integrated data, voice and video business and consumer services.

5.2.5.5 Carrier Ethernet Routers — High performance routers that enable service providers to deliver a suite of data, voice, and video services to enable next-generation applications such as IPTV, Video on Demand (VoD), and Software as a Service (SaaS).

5.2.6 SECURITY

5.2.6.1 Data Center and Virtualization Security Products and Appliances — Products designed to protect high-value data and data center resources with threat defense and policy control.

5.2.6.2 Intrusion Detection/Protection and Firewall Appliances — Provide comprehensive inline network firewall security from worms, Trojans, spyware, key loggers, and other malware. This includes Next-Generation Firewalls (NGFW), which offer a wire-speed integrated network platform that performs deep inspection of traffic and blocking of attacks. Intrusion Detection/Protection and Firewall Appliances should provide:

- Non-disruptive in-line bump-in-the-wire configuration
- Standard first-generation firewall capabilities, e.g., network-address translation (NAT), stateful protocol inspection (SPI) and virtual private networking (VPN), etc.
- Application awareness, full stack visibility and granular control
- Capability to incorporate information from outside the firewall, e.g., directory-based policy, blacklists, white lists, etc.
- Upgrade path to include future information feeds and security threats
- SSL decryption to enable identifying undesirable encrypted applications (Optional)

5.2.6.3 Logging Appliances and Analysis Tools — Solutions utilized to collect, classify, analyze, and securely store log messages.

5.2.6.4 Secure Edge and Branch Integrated Security Products — Network security, VPN, and intrusion prevention for branches and the network edge. Products typically consist of appliances or routers.

5.2.6.5 Secure Mobility Products — Delivers secure, scalable access to corporate applications across multiple mobile devices.

5.2.6.6 Encryption Appliances — A network security device that applies crypto services at the network transfer layer - above the data link level, but below the application level.

5.2.6.7 On-premise and Cloud-based services for Web and/or Email Security — Solutions that provide threat protection, data loss prevention, message level

encryption, acceptable use and application control capabilities to secure web and email communications.

5.2.6.8 Secure Access — Products that provide secure access to the network for any device, including personally owned mobile devices (laptops, tablets, and smart phones). Capabilities should include:

Management visibility for device access

Self-service on-boarding

Centralized policy enforcement

Differentiated access and services

Device Management

5.2.8 SWITCHES — Layer 2/3 devices that are used to connect segments of a LAN (local area network) or multiple LANs and to filter and forward packets among them.

5.2.8.1 Campus LAN – Access Switches — Provides initial connectivity for devices to the network and controls user and workgroup access to internetwork resources. The following are some of the features a campus LAN access switch should support:

Security

i. SSHv2 (Secure Shell Version 2)
ii. 802.1X (Port Based Network Access Control)
iii. Port Security
iv. DHCP (Dynamic Host Configuration Protocol) Snooping

VLANs

Fast Ethernet/Gigabit Ethernet

PoE (Power over Ethernet)

link aggregation

10 Gb support

Port mirroring

Span Taps

Support of IPv6 and IPv4

Standards-based rapid spanning tree

Netflow Support (Optional).

5.2.8.2 Campus LAN – Core Switches — Campus core switches are generally used for the campus backbone and are responsible for transporting large amounts of traffic both reliably and quickly. Core switches should provide:

High bandwidth

Low latency

Hot swappable power supplies and fans

- Security

  SSHv2

  MacSec encryption

  Role-Based Access Control Lists (ACL)

Support of IPv6 and IPv4

1/10/40/100 Gbps support

IGP (Interior Gateway Protocol) routing

EGP (Exterior Gateway Protocol) routing

VPLS (Virtual Private LAN Service) Support

VRRP (Virtual Router Redundancy Protocol) Support

Netflow Support.

5.2.8.3 Campus Distribution Switches — Collect the data from all the access layer switches and forward it to the core layer switches. Traffic that is generated at Layer 2 on a switched network needs to be managed, or segmented into Virtual Local Area Networks (VLANs), Distribution layer switches provides the inter-VLAN routing functions so that one VLAN can communicate with another on the network. Distribution layer switches provides advanced security policies that can be applied to network traffic using Access Control Lists (ACLs).

High bandwidth

Low latency

Hot swappable power supplies and fans

Security (SSHv2 and/or 802.1X)

Support of IPv6 and IPv4

Jumbo Frames Support

Dynamic Trunking Protocol (DTP)

Per-VLAN Rapid Spanning Tree (PVRST+)

Switch-port auto recovery

NetFlow Support or equivalent

5.2.8.4 Data Center Switches — Data center switches, or Layer 2/3 switches, switch all packets in the data center by switching or routing good ones to their final destinations, and discard unwanted traffic using Access Control Lists (ACLs), all at Gigabit and 10 Gigabit speeds. High availability and modularity differentiates a typical Layer 2/3 switch from a data center switch. Capabilities should include:

High bandwidth

Low latency

Hot swappable power supplies and fans

Ultra-low latency through wire-speed ports with nanosecond port-to-port latency and hardware-based Inter-Switch Link (ISL) trunking

Load Balancing across Trunk group able to use packet based load balancing scheme

Bridging of Fibre Channel SANs and Ethernet fabrics

Jumbo Frame Support

Plug and Play Fabric formation that allows a new switch that joins the fabric to automatically become a member

Ability to remotely disable and enable individual ports

Support NetFlow or equivalent

5.2.8.5 Software Defined Networks (SDN) - Virtualized Switches and Routers — Technology utilized to support software manipulation of hardware for specific use cases.

5.2.8.6 Software Defined Networks (SDN) — Controllers - is an application in software-defined networking (SDN) that manages flow control to enable intelligent

networking. SDN controllers are based on protocols, such as OpenFlow, that allow servers to tell switches where to send packets. The SDN controller lies between network devices at one end and applications at the other end. Any communications between applications and devices have to go through the controller. The controller uses multiple routing protocols including OpenFlow to configure network devices and choose the optimal network path for application traffic.

5.2.8.7 Carrier Aggregation Switches — Carrier aggregation switches route traffic in addition to bridging (transmitted) Layer 2/Ethernet traffic. Carrier aggregation switches' major characteristics are:

Designed for Metro Ethernet networks

Designed for video and other high bandwidth applications

Supports a variety of interface types, especially those commonly used by Service Providers

Capabilities should include:

Redundant Processors

Redundant Power

IPv4 and IPv6 unicast and multicast

High bandwidth

Low latency

Hot swappable power supplies and fans

MPLS (Multiprotocol Label Switching)

BGP (Border Gateway Protocol)

Software router virtualization and/or multiple routing tables

Policy based routing

- Layer 2 functionality

  Per VLAN Spanning Tree

  Rapid Spanning Tree

  VLAN IDs up to 4096

  Layer 2 Class of Service (IEEE 802.1p)

  Link Aggregation Control Protocol (LACP)

  QinQ (IEEE 802.1ad)

5.2.8.8 Carrier Ethernet Access Switches — A carrier Ethernet access switch can connect directly to the customer or be utilized as a network interface on the service side to provide layer 2 services.

Hot-swappable and field-replaceable integrated power supply and fan tray

AC or DC power supply with DC input ranging from 18V to 32 VDC and 36V to 72 VDC

Ethernet and console port for manageability

SD flash card slot for additional external storage

Stratum 3 network clock

Line-rate performance with a minimum of 62-million packets per second (MPPS) forwarding rate

Support for dying gasp on loss of power

Support for a variety of small form factor pluggable transceiver (SFP and SFP+) with support for Device Object Model (DOM)

Timing services for a converged access network to support mobile solutions, including Radio Access Network (RAN) applications

Support for Synchronous Ethernet (SyncE) services

Supports Hierarchical Quality of Service (H-QoS) to provide granular traffic-shaping policies

Supports Resilient Ethernet Protocol REP/G.8032 for rapid layer-two convergence

5.2.9 WIRELESS — Provides connectivity to wireless devices within a limited geographic area. System capabilities should include:

Redundancy and automatic failover

IPv6 compatibility

NTP Support

5.2.9.1 Access Points — A wireless Access Point (AP) is a device that allows wireless devices to connect to a wired network using Wi-Fi, or related standards. Capabilities should include:

802.11a/b/g/n

802.11n

802.11ac

Capable of controller discovery method via DHCP (onsite controller or offsite through Cloud Architecture)

UL2043 plenum rated for safe mounting in a variety of indoor environments

Support AES-CCMP (128-bit)

Provides real-time wireless intrusion monitoring and detection

5.2.9.2 Outdoor Wireless Access Points — Outdoor APs are rugged, with a metal cover and a DIN rail or other type of mount. During operations they can tolerate a wide temperature range, high humidity and exposure to water, dust, and oil. Capabilities should include:

Flexible Deployment Options

Provides real-time wireless intrusion monitoring and detection

Capable of controller discovery method via DHCP (onsite controller or offsite through Cloud Architecture)

5.2.9.3 Wireless LAN Controllers — An onsite or offsite solution utilized to manage light-weight access points in large quantities by the network administrator or network operations center. The WLAN controller automatically handles the configuration of wireless access-points. Capabilities should include:

Ability to monitor and mitigate RF interference/self-heal

Support seamless roaming from AP to AP without requiring re-authentication

Support configurable access control lists to filter traffic and denying wireless peer to peer traffic

System encrypts all management layer traffic and passes it through a secure tunnel

Policy management of users and devices provides ability to de-authorize or deny devices without denying the credentials of the user, nor disrupting other AP traffic

Support configurable access control lists to filter traffic and denying wireless peer to peer traffic

5.2.9.4 Wireless LAN Network Services and Management — Enables network administrators to quickly plan, configure and deploy a wireless network, as well as provide additional WLAN services. Some examples include wireless security, asset tracking, and location services. Capabilities should include:

Provide for redundancy and automatic failover

Historical trend and real time performance reporting is supported

Management access to wireless network components is secured

SNMPv3 enabled

RFC 1213 compliant

Automatically discover wireless network components

Capability to alert for outages and utilization threshold exceptions

Capability to support Apple's Bonjour Protocol / mDNS

QoS / Application identification capability

5.2.9.5 Cloud-based services for Access Points — Cloud-based management of campus-wide WiFi deployments and distributed multi-site networks. Capabilities include:

Zero-touch access point provisioning

Network-wide visibility and control

RF optimization,

Firmware updates

5.2.9.6 Bring Your Own Device (BYOD) — Mobile Data Management (MDM) technology utilized to allow employees to bring personally owned mobile devices (laptops, tablets, and smart phones) to their workplace, and use those devices to access privileged government information and applications in a secure manner. Capabilities should include:

Ability to apply corporate policy to new devices accessing the network resources, whether wired or wireless

Provide user and devices authentication to the network

Provide secure remote access capability

Support 802.1x

Network optimization for performance, scalability, and user experience

5.3.0 UNIFIED COMMUNICATIONS (UC) — A set of products that provides a consistent unified user interface and user experience across multiple devices and media types. Unified Communications that is able to provide services such as session management, voice, video, messaging, mobility, and web conferencing. It can provide the foundation for advanced unified communications capabilities of IM and presence-based services and extends telephony features and capabilities to packet telephony network devices such as IP phones, media processing devices, Voice over IP (VoIP) gateways, and multimedia applications. Additional services, such as unified messaging, multimedia conferencing, collaborative contact centers, and interactive multimedia response systems, are made possible through open telephony APIs. General UC solution capabilities should include:

High Availability for Call Processing

Hardware Platform High Availability

Network Connectivity High Availability

Call Processing Redundancy

5.3.0.1 IP Telephony — Solutions utilized to provide the delivery of the telephony application (for example, call setup and teardown, and telephony features) over IP, instead of using circuit-switched or other modalities. Capabilities should include:

Support for analog, digital, and IP endpoints

Centralized Management

Provide basic hunt group and call queuing capabilities

Flexibility to configure queue depth and hold time, play unique announcements and Music on Hold (MoH), log in and log out users from a queue and basic queue statistics (from the phone

E911 Support

5.3.0.2 Instant messaging/ Presence — Solutions that allow communication over the Internet that offers quick transmission of text-based messages from sender to receiver. In push mode between two or more people using personal computers or other devices, along with shared clients, instant messaging basically offers real-time direct written language-based online chat. Instant messaging may also provide video calling, file sharing, PC-to-PC voice calling and PC-to-regular-phone calling.

5.3.0.3 Unified messaging — Integration of different electronic messaging and communications media (e-mail, SMS, Fax, voicemail, video messaging, etc.) technologies into a single interface, accessible from a variety of different devices.

Ability to access and manage voice messages in a variety of ways, using email inbox, Web browser, desktop client, VoIP phone, or mobile phone

Visual Voicemail Support (Optional)

5.3.0.4 Contact Center — A computer-based system that provides call and contact routing for high-volume telephony transactions, with specialist answering “agent” stations and a sophisticated real-time contact management system. The definition includes all contact center systems that provide inbound contact handling capabilities and automatic contact distribution, combined with a high degree of sophistication in terms of dynamic contact traffic management.

5.3.0.5 Communications End Points and Applications

Attendant Consoles

IP Phones

5.3.0.6 UC Network Management — Provides end-to-end service management for Unified Communications. Capabilities include testing, performance monitoring, configuration management, and business intelligence reporting.

5.3.0.7 Collaboration — Voice, video, and web conferencing; messaging; mobile applications; and enterprise social software.

5.3.0.8 Collaborative Video — A set of immersive video technologies that enable people to feel or appear as if they were present in a location that they are not physically in. Immersive video consists of a multiple codec video system, where each meeting attendee uses an immersive video room to “dial in” and can see/talk to every other member on a screen (or screens) as if they were in the same room and provides call control that enables intelligent video bandwidth management.

5.3.0.8.1 Content Delivery Systems (CDS) — A large distributed system of servers deployed in multiple data centers connected by the Internet. The purpose of the content delivery system is to serve content to end-users with high availability and high performance. CDSs serve content over the Internet, including web objects

(text, graphics, URLs, and scripts), downloadable objects (media files, software, documents), applications (e-commerce, portals), live streaming media, on-demand streaming media, and social networks.

5.3.0.8.2 Physical Security — Technology utilized to restricting physical access by unauthorized people to controlled facilities. Technologies include:

a. Access control systems

b. Detection/Identification systems, such as surveillance systems, closed circuit television cameras, or IP camera networks and the associated monitoring systems.

c. Response systems such as alert systems, desktop monitoring systems, radios, mobile phones, IP phones, and digital signage

d. Building and energy controls

5.3.1 SERVICES — For each Category above (5.21-5.30), the following services should be available for procurement as well at the time of product purchase or anytime afterwards.

5.3.1.1 Maintenance Services — Capability to provide technical support, flexible hardware coverage, and smart, proactive device diagnostics for hardware.

5.3.1.2 Professional Services

Deployment Services

Survey/ Design Services — Includes, but not limited to, discovery, design, architecture review/validation, and readiness assessment.

Implementation Services — Includes, but not limited to, basic installation and configuration or end-to-end integration and deployment.

Optimization — Includes, but not limited to, assessing operational environment readiness, identify ways to increase efficiencies throughout the network, and optimize Customer's infrastructure, applications and service management.

Remote Management Services — Includes, but not limited to, continuous monitoring, incident management, problem management, change management, and utilization and performance reporting that may be on a subscription basis.

Consulting/Advisory Services — Includes, but not limited to, assessing the availability, reliability, security and performance of Customer's existing solutions.

Data Communications Architectural Design Services — Developing architectural strategies and roadmaps for transforming Customer's existing network architecture and operations management.

Statement of Work (SOW) Services — Customer-specific tasks to be accomplished and/or services to be delivered based on Customer's business and technical requirements.

5.3.1.3 Partner Services — Provided by Contractor's Authorized Partners/Resellers.

Subject to Contractor's approval and the certifications held by its Partners/Resellers, many Partners/Resellers can also offer and provide some or all of the Services as listed above at competitive pricing, along with local presence and support. As the prime, Contractor is still ultimately responsible for the performance of its Partners/ Resellers. Customers can have the option to purchase the Services to be directly delivered by Contractor (OEM) or its certified Partners/Resellers.

5.3.1.4 Training — Learning offerings for IT professionals on networking technologies, including but not limited to designing, implementing, operating, configuring, and

troubleshooting network systems pertaining to items provided under the master agreement.

STATE OF UTAH CONTRACT NUMBER – AR603

Attachment C – Pricing
Solicitation Number JP14001
WSCA-NASPO Data Communications RFP

Vendor Name: Avaya, Inc.

RFP Product Categories:	**Minimum Discount Percentage:**
5.2.2 NETWORKING SOFTWARE	**Discount % __32__**
5.2.4 OPTICAL NETWORKING	**Discount % __38__**
5.2.5 ROUTERS	**Discount % __38__**
5.2.6 SECURITY	**Discount % __38__**
5.2.8 SWITCHES	**Discount % __38__**
5.2.9 WIRELESS	**Discount % __18__**
5.3.0 UNIFIED COMMUNICATIONS (UC)	**Discount % __24__**

In addition to the above, Avaya, either directly or through applicable Authorized Resellers, is pleased to offer hosted service offerings for certain technology categories listed above (at Avaya's discretion). These hosted offerings provide WSCA-NASPO customers with an alternative way to consume the technology to best meet their needs and provide flexible payment models. These models may be well suited for customers that have limited technical staff for technology deployment and ongoing administration.

The hosted service offerings are based on Avaya validated architectures and delivered either directly or through carefully vetted and approved Authorized Resellers. Due to the unique requirements of each customer, Avaya and the approved Authorized Resellers, as applicable, can work with the customer to understand their unique requirements and deploy hosted offerings to best meet their needs. Additional contractual terms and conditions specific to the hosted solutions may be required.

Current Avaya pricing sheets, approved by the State of Utah, can be found at the following web link:

VENDOR PRICING SHEETS CLICK HERE

IMPORTANT: The minimum discount percentage listed in this attachment is for general informational purposes only and may not apply to every line item authorized under this contract. For specific item pricing, please refer to the contact price list weblink provided in this document.

Vendors are required to post state specific pricing on their hosted website or through the WSCA-NASPO eMarket center as required by solicitation JP14001, in addition to the vendor pricing sheets approved and hosted by the State of Utah's master contract summary sheet. The State of Utah vendor pricing sheets will serve as the approved base price and do not include any applicable state specific administrative fees. State specific pricing, hosted on the vendor website or WSCA-NASPO eMarketcenter may reflect authorized state specific administrative fees. No other fees are authorized under this contract. Pricing audits may be conducted at any time by the State of Utah, WSCA-NASPO, or 3rd party audit provider to ensure accurate pricing.

Per Solicitation JP14001, the following pricing/product requirements and instructions apply:

1.11 Pricing Structure

Pricing Structure: Pricing for the State of Utah WSCA-NASPO Master Agreements shall be based on the Percent Discount off the current global MSRP Schedule applicable to United States customers.

1.12 Price Guarantee Period

Price Guarantee Period: The Data Communication Provider's Discount rate shall remain in effect for the term of the WSCA-NASPO Master Price Agreement.

1.13 Price Escalation

Equipment, Supplies and Services: Data Communications provider may update the pricing on their MSRP price list one time every year after the first year of the original contract term. The WSCA-NASPO Contract Administrator will review a documented request for a Price Schedule price list adjustment only after the Price Guarantee Period.

1.14 Price Reductions

In the event of a price decrease in any category of product at any time during the contract in a Provider's Price Schedule, including renewal options, the WSCA-NASPO Contract Administrator shall be notified immediately. All Price Schedule price reductions shall be effective upon the notification provided to the WSCA-NASPO Master Agreement Administrator.

1.20 WSCA Administrative Fee
The Contracted Supplier must pay a WSCA-NASPO administrative fee of one quarter of one percent (.25%) in accordance with the terms and conditions of the contract. The WSCA-NASPO administrative fee shall be submitted quarterly and is based on the actual sales of all products and services in conjunction with your quarterly reports. The WSCA-NASPO administrative fee must be included when determining the pricing offered. The WSCA-NASPO administrative fee is not negotiable and shall not be added as a separate line item on an invoice.

Additionally, some WSCA-NASPO participating entities may require that an administrative fee be paid directly to the WSCA-NASPO participating entity on purchases made by purchasing entities within that State. For all such requests, the fee percentage, payment method and payment schedule for the participating entity's administrative fee will be incorporated in the Participating Addendum. Data Communications Provider will be held harmless, and may adjust (increase) the WSCA-NASPO Master Agreement pricing by the fee percentage for that participating entity accordingly for purchases made by purchasing entities within the jurisdiction of the State. All such agreements may not affect the WSCANASPO fee or the prices paid by the purchasing entities outside the jurisdiction of the participating entities requesting the additional fee.

5.3.2 ADDING PRODUCTS

The ability to add new equipment and services is for the convenience and benefit of WSCA-NASPO, the Participating States, and all the Authorized Purchasers. The intent of this process is to promote "one-stop shopping" and convenience for the customers and equally important, to make the contract flexible in keeping up with rapid technological advances. The option to add new product or service categories and/items will expedite the delivery and implementation of new technology solutions for the benefit of the Authorized Purchasers.

After the contracts are awarded, additional IT product categories and/or items may be added per the request of the Contractor, a Participating State, an Authorized Purchaser or WSCA-NASPO. Additions may be ad hoc and temporary in nature or permanent. All additions to an awarded Contractor or Manufacturer's offerings must be products, services, software, or solutions that are commercially available at the time they are added to the contract award and fall within the original scope and intent of the RFP (i.e., converged technologies, value adds to manufacturer's solution offerings, etc.).

5.3.2.1 New Product from Contractors — If Contractor, a Participating State, an Authorized Purchaser or WSCA-NASPO itself requests to add new product categories permanently, then all awarded Contractors (Manufacturers) will be notified of the proposed change and will have the opportunity to work with WSCA to determine applicability, introduction, etc. Any new products or services must be reviewed and approved by the State of Utah WSCA-NASPO Contract Administrator.

5.3.2.2 Ad Hoc Product Additions — A request for an ad hoc, temporary addition of a product category/item must be submitted to WSCA-NASPO via the governmental entity's contracting/purchasing officer. Ad hoc, temporary requests will be handled on a case-by-case basis. The State of Utah WSCA-NASPO Contract Administrator must also be notified and will review and approve the addition before the purchase is finalized by the end user. The State of Utah WSCA-NASPO Contract Administrator has the final approval on any Ad Hoc product additions.

5.3.2.3 Pricelist Updates — As part of each Contractor's ongoing updates to its pricelists throughout the contract term, Contractor can add new SKUs to its awarded product categories that may have been developed in-house or obtained through mergers, acquisitions or joint ventures; provided, however, that such new SKUs fall within the Contractor's awarded product categories. Updated price lists will be reviewed and approved by the State of Utah WSCA-NASPO Contract Administrator before the revised price list is considered valid.

ATTACHMENT D: Vendor's Response to Solicitation JP14001

Avaya

Bid Contact **Teresa Just**
tjust@avaya.com
Ph 801-975-5707

Address **719 North 400 West**
Centerville, UT 84014

Supplier Code 97143

Item #	Line Item	Notes	Unit Price	Qty/Unit	Total Price	Attch.	Docs
JP14001--01-01	JP14001 - Data Communications Products & Services	**Supplier Product Code:**	**First Offer -**	1 / contract		**Y**	**Y**

Supplier Total **$0.00**

Avaya

Item: **JP14001 - Data Communications Products & Services**

Attachments
Exceptions.docx
State of Utah - RFP Form Complete.docx
State of Utah - Data Communications RFP Final v1.docx
State of Utah Attachment C final.docx
WSCA_Attachment_C_Pricing_Schedule_Section5-2-x - 5-3-x.xlsx
Copy of WSCA_Attachment_Maintenance_Pricing_Schedule_Section5-2-x - 5-3.xlsx
State of Utah Table of Contents Attachments.docx
01 - Avaya Identity Engines CASE Wizard.pdf
02 - Avaya Identity Engines Ignition Access Portal.pdf
03 - Avaya Identity Engines Ignition Guest Manager.pdf
04 - Avaya Identity Engines Ignition Server.pdf
05 - Avaya Networking Momentum.pdf
06 - Avaya VENA Distributed ToR.pdf
07 - Avaya VENA Distribution of Globally Routable IPv6 over Fabric Connect.pdf
08 - Avaya VENA Fabric Connect.pdf
08 - Avaya VENA Fabric Connect.pdf
09 - Avaya VENA Network Virtualization using Shortest Path Bridging and IP-SPB.pdf
10 - Avaya VENA Video Surveillance – IP Multicast over Avaya Fabric Connect.pdf
11 - Avaya-on-Avaya Converged Value.pdf
12 - COM Fact_sheet.pdf
13 - ERS_3500 Series_fact_sheet.pdf
14 - ERS_4800 Series_fact_sheet.pdf
15 - ERS_5600 Series_fact_sheet.pdf
16 - ERS_8800 Series_fact_sheet.pdf
17 - IPFM Fact_sheet.pdf
18 - Lifetime Warranty for Stackable Ethernet Switches for Campus, Data Center and SME deployments.pdf
19 - Packet Pushers -Customers share the benefits of deploying an Avaya fabric - podcast transcript.pdf
20 - SR_2330 Series_fact_sheet.pdf
21 - SR_4134 Series_fact_sheet.pdf
22 - VPFM Fact_sheet.pdf
23 - VPS Fact_sheet.pdf
24 - VSP_4000 Series_fact_sheet.pdf
25 - VSP_7000 Series_fact_sheet.pdf
26 - VSP_9000 Series_fact_sheet.pdf
27 - WLAN_8100 Series_fact_sheet.pdf
28 - Avaya 1600 Series IP Deskphones.pdf
29 - Avaya 9600 Series IP Deskphones.pdf
30 - Avaya ACE System Fact Sheet.pdf
31 - Avaya Aura Call Center Elite 6.2 Fact Sheet.pdf
32 - Avaya Aura Conferencing - Fact Sheet.pdf
33 - Avaya Aura Contact Center 6.3 Fact Sheet.pdf
34 - Avaya Aura Presence Services Offer.pdf
35 - Avaya Aura Taking the Next Steps.pdf
36 - Avaya AuraR Workforce Optimization Solution Brochure.pdf
38 - Avaya Aura® Application Enablement Services - Fact Sheet.pdf
39 - Avaya Aura® Communication Manager Messaging 6.0.pdf
40 - Avaya Aura® Communication Manager.pdf
41 - Avaya Aura® Messaging.pdf
42 - Avaya Aura® Presence Services - Fact Sheet.pdf
43 - Avaya Aura® Session Manager.pdf
44 - Avaya Aura® System Manager.pdf

45 - Avaya Automated Chat Brochure.pdf
46 - Avaya B149 Conference Phone.pdf
47 - Avaya B159 Conference Phone.pdf
48 - Avaya B179 Conference Phone.pdf
49 - Avaya Call Management System product brief.pdf
50 - Avaya Cloud Enablement for Video.pdf
51 - Avaya Cloud Enablement Solution for Enterprises Brochure.pdf
52 - Avaya Contact Center Control Manager Fact Sheet.pdf
53 - Avaya Desktop Communications Enablement.pdf
54 - Avaya Flare Experience for Windows and iPad.pdf
55 - Avaya Flare Experience.pdf
56 - Avaya Microsoft Lync Integration.pdf
57 - Avaya One Touch Video Fact Sheet.pdf
58 - Avaya one-X Attendant.pdf
59 - Avaya one-X Mobile.pdf
60 - Avaya one-X® Communicator.pdf
61 - Avaya Aura Experience Portal.pdf
62 - Call Center Elite Multichannel Brochure.pdf
63 - Expanded Meet-me Conferencing Fact Sheet.pdf
64 - IP Office Preferred Edition Fact Sheet.pdf
65 - Proactive Outreach Manager Brochure.pdf
66 - Safe Session Initiation Protocol Trunks- Avaya Session Border Controller for Enterprise.pdf
67 - The Avaya Collaborative Cloud.pdf
68 - The Business Value of Enterprise SIP - A CIO View.pdf
69 - UCC and SIP Drive Savings in Cost Conscious Enterprises.pdf
70 - Avaya Converged Case Study full suite of solutions - Sochi 2014 Olympic Winter Games.pdf
71 - Fabric Connect Healthcare Case Study - Franciscan Alliance.pdf
72 - Fabric Connect Higher Ed Case Study - Macquarie University Case Study.pdf
73 - Avaya Switch Clustering Higher Ed Case Study - Temple University.pdf
74 - Avaya Fabric Enabled Networking to Power InteropNet at Interop 2013.pdf

Exceptions

7.2 Offeror Exceptions to Terms and Conditions

7.2.1 The Lead State discourages exceptions to contract terms and conditions in the RFP, attached Participating Entity terms and conditions (if any), and the WSCA-NASPO Master Agreement Terms and Conditions. As specified in this RFP, exceptions may cause a proposal to be rejected as nonresponsive when, in the sole judgment of the Lead State (and its evaluation team), the proposal appears to be conditioned on the exception or correction of what is deemed to be a deficiency or unacceptable exception would require a substantial proposal rewrite to correct. Moreover, Offerors are cautioned that award may be made on receipt of initial proposals without clarification or an opportunity for discussion, and the nature of exceptions would be evaluated. Further, the nature of exceptions will be considered in the competitive range determination if one is conducted. Exceptions will be evaluated to determine the extent to which the alternative language or approach poses unreasonable, additional risk to the state, is judged to inhibit achieving the objectives of the RFP, or whose ambiguity makes evaluation difficult and a fair resolution (available to all vendors) impractical given the timeframe for the RFP.

Avaya Response:

Understood.

7.2.2 The Lead State will entertain exceptions to contract terms and conditions in this RFP, including the WSCA-NASPO Master Agreement Terms and Conditions. Offerors are strongly encouraged to be judicious in identifying exceptions.

Avaya Response:

Understood. Please see Avaya's requested exceptions within the WSCA-NASPO Master Terms and Conditions and the State of Utah Standard Information Technology Terms and Conditions.

7.2.4 The Lead State will consider Offeror standard terms for inspection and acceptance, so long as a reasonable time for acceptance is stated. However, the Participating Entities right to exercise revocation of acceptance under its Uniform Commercial Code must be preserved. Submit the standard terms with the offer and describe generally how commerciality in their use is established, e.g., identify publicly-available catalogs where the warranty terms are used and how long they have been in use.

Avaya Response:

Understood. Please see Avaya response clause to Section 8 (Delivery) and New Section 34 (Contractor's Implementation and Professional Services Terms), Subsection 34.2 (Acceptance) in the WSCA-NASPO Master Agreement Terms and Conditions for Avaya's exceptions.

7.2.5 The Lead State will consider standard warranty and/or maintenance terms, but the alternative warranty and/or maintenance will be evaluated to determine whether they provide comparable protection to the warranty specified in section 30 of the WSCA-NASPO Master Agreement Terms and Conditions. Provide the terms of the warranty and maintenance in the offer. Also describe generally how commerciality is established for those terms, e.g., publicly-available catalogs the warranty terms are used and how long they have been in use. Provide one reference from a customer having comparable sales volume who is using the warranty and maintenance provisions, where the warranty term has expired, and who has exercised rights under the warranty.

Avaya Response:

Understood. Please see RFP Section 4.2 and the WSCA-NASPO Master Agreement Terms and Conditions Section 30 for Avaya's requested exceptions with regards to Avaya's standard warranty.

In addition, please see Avaya's requested exceptions to add a new Section 33 to the WSCA-NASPO Master Agreement Terms and Conditions, titled, Avaya's Maintenance/ Managed Services terms, and add a new Section 34 titled Implementation and Professional Services Terms

Avaya's requests for modification, consideration, or exceptions are substantially similar to those that contained in the following publicly available contract:

Texas Department of Information Resources (DIR) # DIR-SDD-1499 (Eff 11/30/2010)
http://www2.dir.state.tx.us/DIR_Contracts/DIR-SDD-1499-appendix-d.pdf

7.2.6 Intellectual property. The Lead State will consider license terms and conditions that as a minimum convey to Participating Entities a nonexclusive, irrevocable, perpetual, paid-up, royalty free license to use software or other intellectual property delivered with or inherent in the commodity or service, and to transfer the license rights to third parties for government purposes. Provide the terms of the license, including any terms that cover third party intellectual property used in the Offeror's solution. Offerors should be aware that Participating Entities using federal funds may be required to negotiate additional or different terms to satisfy minimum rights requirements of their federal grants.

Avaya Response:

Understood. Please refer to the WSCA-NASPO Master Agreement Terms and Conditions Section 17, for Avaya's requested exceptions regarding: i) Avaya's software license, ii) Intellectual Property rights.

In addition, see WSCA-NASPO Master Agreement Terms and Conditions, Section 12 for Avaya's requested exceptions for intellectual property indemnification.

In addition, regarding State of Utah Standard Information Technology Terms and Conditions, Avaya respectfully requests that Avaya's proposed response to the WSCA-NASPO Master Agreement Terms and Conditions, Section 17.2 (Intellectual Property Rights) supersedes for the following sections of the State of Utah Standard Information Technology Terms and Conditions: i) Section 26 (Copyright); ii) Section 27 (Ownership, Protection and Use of Records); iii) Section 28 (Ownership, Protection, and use of Confidential Federal State, or Local Government Internal Business Processes and Procedures); iv) Section 29 (Ownership, Protection, and return of Documents and Data Upon Contract Termination or Completion)

Avaya's requests for modification, consideration, or exception are substantially similar to those that contained in the following publicly available contract:

Texas Department of Information Resources (DIR) # DIR-SDD-1499 (Eff 11/30/2010)
http://www2.dir.state.tx.us/DIR_Contracts/DIR-SDD-1499-appendix-d.pdf

7.2.7 Any limitation of liability provision – including any exclusion of damages clause – proposed by an Offeror to be the default limitation of liability provision under the Master Agreement must preserve a reasonable amount of direct damages for breach of contract, additionally permit the Participating Entity to recoup amounts paid for supplies or services not finally accepted (as in the case of advance or progress payments, if used), and preserve the right of the Participating Entity to be held harmless from costs of litigation as well as ultimate liability within limits agreed by the parties.

Moreover, any limitation of liability clause proposed by an Offeror should be reciprocal, cover lost profits, and exclude claims or liability arising out of intellectual property infringement, bodily injury (including death), damage to tangible property, and data breach. Include the text of any such language if proposed. Further, provide contact information for a public entity, or private entity if no public entity exists, where the limitation of liability clause (or another clause substantially similar) operated to limit liability. If no such example exists, provide contact

information for a state, or if no state exists, a higher education institution, or if none exists, a city or county represented by counsel in the negotiations who has agreed to the proposed terms and conditions.

Avaya Response:

Understood. Please reference the WSCA-NASPO Master Agreement Terms and Conditions Section 15, for Avaya's requested exceptions regarding limitation of liability.

In addition, reference the State of Utah Standard Information Technology Terms and Conditions for Avaya's request for exception to Section 11 (Indemnity Clause) which we propose to be superseded by the General Indemnity clause of Avaya's proposed Section 15.2 in the WSCA-NASPO Master Agreement Terms and Conditions.

Avaya's requests for modification, consideration, or exception are substantially similar to those that contained in the following publicly available contract:

Texas Department of Information Resources (DIR) # DIR-SDD-1499 (Eff 11/30/2010)
http://www2.dir.state.tx.us/DIR_Contracts/DIR-SDD-1499-appendix-d.pdf

7.2.8 The enumerated examples in subsection 7.2 are not intended to limit the ability of Offerors to propose additional, reasonable exceptions. For any other exception, where the exception is based on claims of standard or normal commercial practice, provide contact information for a state, or if no state exists, a higher education institution, or if none exists, a city or county represented by counsel in the negotiations who has agreed to the proposed terms and conditions.

Avaya Response:

Avaya has submitted additional, reasonable modifications, requests for consideration or exceptions to the following clauses, within the WSCA-NASPO Master Agreement Terms and Conditions:

Section 3.1 – Assignment/Subcontracting

Section 4 – Cancellation Section 5 – Confidentiality, Non-Disclosure and Injunctive Relief

Section 7 – Defaults and Remedies

Section 8 – Delivery

Section 16 – Laws and Regulation

Section 19 – Order Numbers

Section 26 – Standard of Performance and Acceptance

Section 27 – System Failure or Damage

Section 28 – Title of Product

Section 29 – Waiver of Breach

Section 31 – Assignment of Antitrust Rights

Definitions

Avaya has submitted modifications or exceptions to the following clauses within Attachment A, the State of Utah Standard Information Technology Terms and Conditions:

Section 13 – Termination

Section 17 – Secure Protection and Handling of Data

Section 18 – Notification and Data Breaches

Section 19 – Change Management

Section 23 – Ordering and Invoicing

Section 25 – Payment

Section 30 – Confidentiality

Section 31 – Termination Upon Default

Section 34 – Liability of Insurance

Section 35 – Entire Agreement

Section 36 – Survivorship

Section 39 – Time is of the Essence

Section 43 – Insurance

Section 44 – Standard of Care

Section 45 – State Review Limitations

Avaya's requests for modification, consideration, or exceptions are substantially similar to those that contained in the following publicly available contract:

Texas Department of Information Resources (DIR) # DIR-SDD-1499 (Eff 11/30/2010)
http://www2.dir.state.tx.us/DIR_Contracts/DIR-SDD-1499-appendix-d.pdf

State of Utah
Request for Proposal

Legal Company Name (include d/b/a if applicable)	Federal Tax Identification Number	State of Utah Sales Tax ID Number
Avaya Inc.	22-3713430	

Ordering Address	City	State	Zip Code
4655 Great American Pkwy	Santa Clara	CA	95054-1233

Remittance Address (if different from ordering address)	City	State	Zip Code

Type Corporation	Company Contact Person
☐ Partnership ☑ Proprietorship ☐ Government	Teresa Just

Telephone Number (include area code)	Fax Number (include area code)
801-975-5707	801-975-5707

Company=s Internet Web Address	Email Address
www.avaya.com	tjust@avaya.com

Discount Terms (for bid purposes, bid discounts less than 30 days will not be considered)	Days Required for Delivery After Receipt of Order (see attached for any required minimums)
Net 30	10 Days

The undersigned certifies that the goods or services offered are produced, mined, grown, manufactured, or performed in Utah.

☐ Yes ☑ No. If no, enter where produced, etc.

NA

Signature:

Printed Name: _Edward J. Walton___

Date: August 30, 2013

An Avaya Solution for

State of Utah

Data Communications Products and Services Contract
Solicitation # JP14001

Presented By:

Teresa Just
Named Account Manager

719 North 400 West
Centerville, UT 84014
801-975-5707
tjust@avaya.com

August 30, 2013

AVAYA
The Power of We™

Avaya Inc.
4655 Great American Parkway
Santa Clara, CA. 95054-1233

www.avaya.com

August 30, 2013

Jennifer Porter
State of Utah Division of Purchasing and General Services
State Office Building, Capitol Hill
Room 3150
Salt Lake City, UT 84114 -1061

Dear Ms. Porter,

Avaya understands that you and your team will be making a very important decision in the coming days, choosing a vendor(s) to support the Data and Unified Communications products and services, which are so critical in the State and Local Government and School Systems.

The unique Avaya unified communications strategy is about harnessing the business power of human interactions by bringing together the right people and the relevant information using the most effective means. Avaya solutions can help the State of Utah and the WSCA-NASPO Participating States make better decisions faster and serve customers more effectively at a lower cost.

Avaya Aura® extends, enhances, and integrates our industry leading Communication Manager, data, video, and telephony solutions with new capabilities, simplified packaging, and a SIP-based architecture. Avaya Aura® is a natural evolution of our open, reliable and extensible IP-based communications and collaboration platform. The session based architecture centralizes applications and allows the shift from calls to sessions and from the system to the profile and needs of the end user, regardless of location.

Avaya Aura® architecture simplifies complex multivendor, multimodal, multi location networks enabling State of Utah and the WSCA-NASPO Participating States to take advantage of cost saving SIP trunk aggregation, centralized applications, and centralized management. Avaya provides the path for integration of the latest unified communication applications at a pace you choose without compromising existing investments.

The architecture is designed with sustainability in mind, efficiently using data center resources, and leveraging economies of scale with centralized services. Fewer servers, server virtualization, high efficiency power supplies, and phones with low energy requirements result in overall lower Total Cost of Ownership.

In summary, Avaya distinguishes itself from our competitors by leveraging experience, expertise, and leadership in Data, Telephony, and Video as the keystone of our unified communications strategy. We are applications centric, focusing on the user; rather than the desktop, the device, and the network, with solutions that are fit for purpose, not commoditized. Avaya offers:

- A unique unified communications strategy focused on harnessing the business power of human interactions
- Data and Telephony expertise and ongoing innovation based on an industry leading architecture
- Flexible, incremental growth, and investment protection that allows the State of Utah and WSCA-NASPO Participating States to evolve at your own path, pace, and choice with multivendor support and without vendor lock-in
- Industry leading low total cost of ownership and sustainability
- Industry leading application enablement, with a unique integration platform and ecosystem of third party developers

Avaya Inc.
4655 Great American Parkway
Santa Clara, CA. 95054-1233

www.avaya.com

- Solutions with more than 99.999 levels of reliability to meet the highest standards of enterprise business and contact center operations.
- Scalability up to 100,000 users, 50,000 SIP endpoints, 500 Avaya Aura® Communication Manager servers, and 25,000 locations with a single point of management.
- Support of standards and openness as strategic differentiators, backed by leadership in standards bodies, architecture to address vendor variability, and open access to Avaya solutions.

The following information explains how Avaya can deliver on the promise to help the State of Utah and WSCA-NASPO and Participating States realize your goals. Please contact me if questions arise. I look forward to talking with you soon.

Sincerely,

Teresa Just

Teresa Just
Named Account Manager

Table of Contents

Section 1: WSCA-NASPO Solicitation General Information 1
Section 3: Data Communications Provider Mandatory Minimum Requirements 4
Section 4: Data Communications Provider Qualifications 7
Section 5: Service Offering Qualifications 17
Section 6: Evaluation 165
Section 7: Master Agreement Terms and Conditions / Exceptions 171
WSCA-NASPO Master Agreement Terms and Conditions 179
ATTACHMENT A 214
STATE OF UTAH STANDARD INFORMATION TECHNOLOGY TERMS AND CONDITIONS (FOR WSCA CONTRACTS and DTS RELATED CONTRACTS) 214

Avaya and the Avaya Logo are trademarks of Avaya Inc. and may be registered in certain jurisdictions. Trademarks identified by ® and ™ and SM are registered trademarks or trademarks or service marks, respectively, of Avaya Inc. unless noted. All other trademarks are the property of their respective owners.

Executive Summary

Avaya is a Trusted Partner of State and Local Government and Education Systems

As a global leader in data communication, unified communications and contact centers, Avaya helps State and Local Government and school districts seamlessly converge and consolidate their voice, data, and video environment to create a foundation that is lower cost, higher in performance, and more reliable.

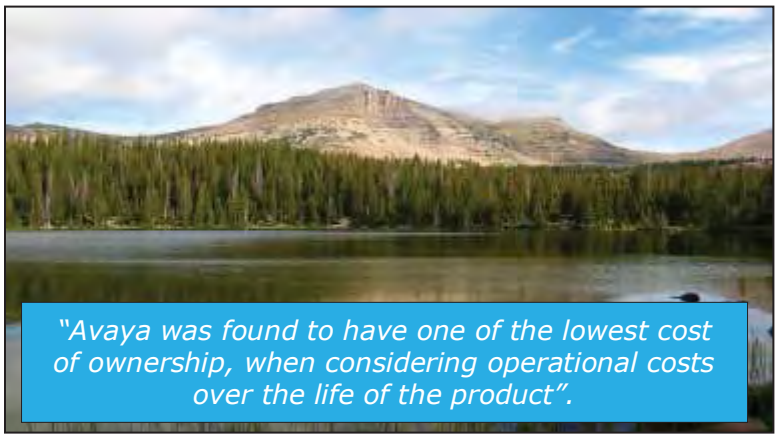
Key Elements of the Avaya Solution

- Lower Total Cost of Ownership
- Complete Portfolio of Communication Solutions and Services
- National Footprint

Lower Total Cost of Ownership

Nemertes Research 2013 report: Operational Cost Drives Stark Differences in First Year Telephony, Unified Communication Costs by Robin Gareiss.

The Avaya data networking products have been shown by independent third party analysts to be up to 40% lower price than the market leader on comparable Ethernet Switches.



Complete Portfolio of Communication Solutions and Services

Avaya offers solutions in three key business collaboration and communications categories:

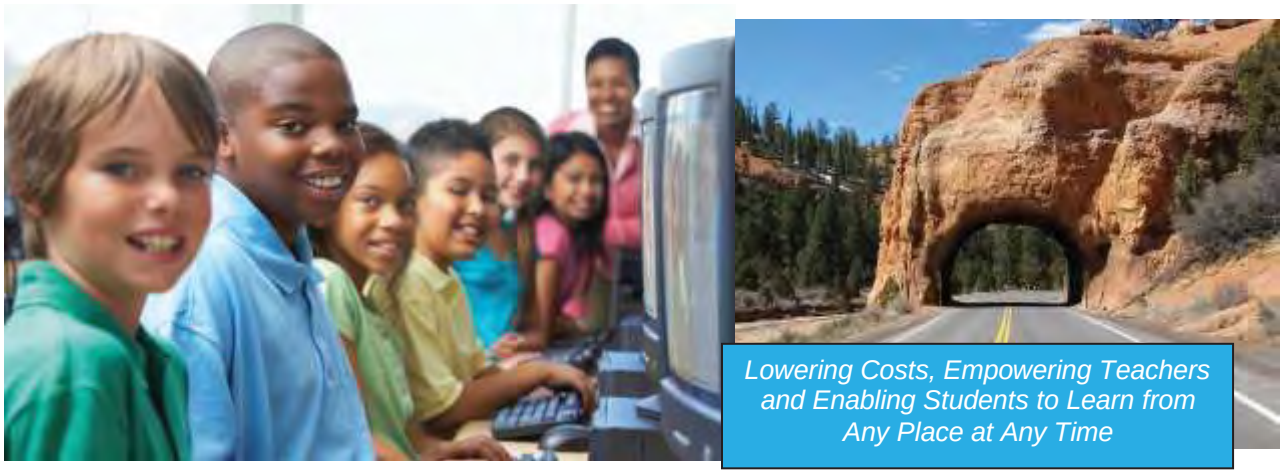
- Real time collaboration, video, and unified communications software, infrastructure, and endpoints for an increasingly mobile workforce.
- Customer experience interaction management, including contact center applications.

- Fit-for-purpose networking solutions including Ethernet switching and routing, wireless, security, and collaboration pods to deliver maximum performance for Avaya applications supporting private or public cloud solutions.

These three categories are supported by an Avaya portfolio of services including product support, integration, and professional and managed services that enable customers to optimize, and manage their communications networks worldwide, and achieve enhanced business results.

National Footprint

More than one million businesses worldwide, including Federal, State and Local Government, and Education, use Avaya collaboration solutions for data networking, IP telephony, unified communications, and contact centers. Avaya Client Services provides comprehensive service and support for organizations, small to large.



Lowering Costs, Empowering Teachers and Enabling Students to Learn from Any Place at Any Time

Why Avaya?

Avaya is a global leader in business communications systems. The company provides data networking, unified communications, contact centers, and related services directly and through its channel partners to leading businesses, and organizations. Enterprises of all sizes depend on Avaya for state of the art communications that improve efficiency, collaboration, customer service, and competitiveness.

The unique combination of communications applications, software, and services at Avaya helps companies simplify complex communications and integrate with technologies from other vendors, enabling customers to unlock value and potential from their network. By embedding communications into the operations of an enterprise, Avaya helps improve the way organizations work, making people more productive, processes more flexible, and customers more satisfied.

Avaya focuses on these major businesses:

Major Businesses	Description
Unified Communications	The Avaya unified communications solutions help companies increase employee productivity, improve customer service, and reduce costs by integrating multiple forms of communications, including telephony, email, instant messaging, and video all across multivendor networks. With Avaya unified communications, customers can communicate effectively regardless of location, or device. Open, standards based unified communications software and hardware at

Major Businesses	Description
	Avaya are widely recognized as the most reliable, secure, and comprehensive offerings in the industry.
Contact Centers	Avaya is the global leader in the contact center market. Avaya offers highly reliable, scalable communications solutions that improve customer service, and help companies compete more effectively. The Avaya contact center solutions include intelligent routing, self-service, and proactive contact applications that drive effective communications and transactions with customers. In addition, the Avaya analytics and reporting platform, Avaya IQ, provides companies with detailed customer information that improves profitability, and customer retention.
Avaya Networking	The Avaya Networking portfolio offers the reliable, secure, end-to-end solutions needed to fully use real time communications, delivering world class performance, and superior return on investment. The diverse networking portfolio team at Avaya is committed to delivering innovative technology, energy efficient hardware, and improving the effectiveness of business by creating a simpler and more effective network. Organizations should never be constrained by their networks, and proven networking solutions from Avaya allow the network to be accepted and valued as a genuine real time communications enabler.
Avaya Client Services	Avaya Client Services evaluates, designs, implements, and manages enterprise communications networks for superior business results. The Avaya consulting and implementation services are backed by approximately 7,000 employees worldwide; 34 network operations and technical support centers; and unique, patented design, and management tools.
Small and Medium Enterprise Communications	The Avaya Small and Medium Enterprise Communications unit is focused on enterprises with up to 250 employees. The company offers complete solutions that bring together telephony, messaging, networking, conferencing, and customer management designed for the requirements of small and medium enterprises. The products and services are sold primarily through the Avaya global channel partners.

Unified Communications

The Avaya unified communications solutions help companies increase employee productivity, improve customer service, and reduce costs by integrating multiple forms of communications, including telephony, email, instant messaging, and video all across multivendor networks. With Avaya unified communications, customers can communicate effectively regardless of location, or device.

Open, standards based unified communications software and hardware at Avaya are widely recognized as the most reliable, secure, and comprehensive offerings in the industry.

Contact Centers

Avaya is the global leader in the contact center market. Avaya offers highly reliable, scalable communications solutions that improve customer service, and help companies compete more effectively.

The Avaya contact center solutions include intelligent routing, self-service, and proactive contact applications that drive effective communications and transactions with customers. In addition, the Avaya analytics and reporting platform, Avaya IQ, provides companies with detailed customer information that improves profitability, and customer retention.

Avaya Networking

The Avaya Networking portfolio offers the reliable, secure, end to end solutions needed to fully use real time communications, delivering world class performance, and superior return on investment. The diverse networking portfolio team at Avaya is committed to delivering innovative technology, energy efficient hardware, and improving the effectiveness of business by creating a simpler and more effective network. Organizations should never be constrained by their networks, and proven networking solutions from Avaya allow the network to be accepted and valued as a genuine real time communications enabler.

Avaya Client Services

Avaya Client Services evaluates, designs, implements, and manages enterprise communications networks for superior business results. The Avaya consulting and implementation services are backed by approximately 7,000 employees worldwide; 34 network operations and technical support centers; and unique, patented design, and management tools.

Small and Medium Enterprise Communications

The Avaya Small and Medium Enterprise Communications unit is focused on enterprises with up to 250 employees. The company offers complete solutions that bring together telephony, messaging, networking, conferencing, and customer management designed for the requirements of small and medium enterprises. The products and services are sold primarily through the Avaya global channel partners.

Key Avaya Facts

Avaya employs over 16,000 people worldwide, including 3,100 research and development professionals.

Avaya has approximately 5,500 patents or patents pending, and about 9,200 channel partners worldwide.

Avaya continues to maintain its leadership in key market segments over major competitors including Alcatel-Lucent, Cisco, Genesys, Mitel, NEC, ShoreTel, and Siemens. Avaya is consistently recognized as a global leader by industry and technology experts, and has achieved worldwide leadership positions in the following segments:

- No. 1 in Worldwide Unified Communications and Telephony Systems[1]
- No. 1 in Worldwide Contact Center[2]
- No. 1 in Worldwide Enterprise Messaging[3]
- No. 1 in Worldwide Fixed Mobile Convergence[4]
- No. 1 in Worldwide Voice Maintenance Services[5]

Additionally, Gartner places Avaya in the Leaders Quadrant based on its completeness of vision and ability to execute:

- Leaders Quadrant in Gartner Magic Quadrant for Corporate Telephony, 2012[6]

1 Dell'Oro Group, Enterprise Telephony Report, 4Q11, March, 2012
2 Gartner Inc., Market Share, Contact Center: Worldwide, 2011, Drew Kraus, March, 2012
3 T3i Group, InfoTrack for Converged Applications, Full Year 2010, Messaging, June, 2011
4 Frost & Sullivan, World Enterprise Premises-Based FMC Solutions Markets, February, 2011
5 IntelliCom Analytics, 4Q 2011 Global Lifecycle Services Market, March, 2012
6 Gartner Magic Quadrant for Corporate Telephony, Jay Lassman et al, September, 2012

- Leaders Quadrant in Gartner Magic Quadrant for Unified Communications, 2012[7]
- Leaders Quadrant in Gartner Magic Quadrant for Contact Center Infrastructure, Worldwide, 2012[8,9]

7 Gartner Magic Quadrant for Unified Communications, Bern Elliot et al, August, 2012

8 Gartner Magic Quadrant for Contact Center Infrastructure, Worldwide, Drew Kraus et al, June, 2012

9 The Magic Quadrants are copyrighted by Gartner, Inc. and are reused with permission. The Magic Quadrant is a graphical representation of a marketplace at and for a specific time period. It depicts Gartner's analysis of how certain vendors measure against criteria for that marketplace, as defined by Gartner. Gartner does not endorse any vendor, product or service depicted in the Magic Quadrant, and does not advise technology users to select only those vendors placed in the "Leaders" quadrant. The Magic Quadrant is intended solely as a research tool, and is not meant to be a specific guide to action. Gartner disclaims all warranties, express or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.

Section 1: WSCA-NASPO Solicitation General Information

Avaya Response:

Avaya has read, understands, and agrees with all of the requirements in Section 1 and Section 2. The questions listed below are where we have additional comments.

1.8 Current State Participants

The States currently participating in the existing contracts are: Alaska, Arkansas, California, Colorado, Delaware, District of Columbia, Hawaii, Idaho, Iowa, Kentucky, Louisiana, Minnesota, Missouri, Montana, Nevada, New Jersey, Oklahoma (Grand River Dam Authority), Oregon, South Dakota, Utah, Washington, Wisconsin and Wyoming.

States with "Intent to Participate" – The following states have executed an Intent to Participate thru WSCA-NASPO, which simply indicates that they want to be formally listed in the published Request for Proposal as participating in the solicitation process: California, Hawaii, Minnesota, Missouri, Montana, Nevada, New Jersey, South Carolina, South Dakota, Utah, Vermont and Washington. All 56 NASPO members are eligible to participate in all WSCA-NASPO contracts when and if they decide they want to, in accordance with their individual statutory requirements.

Avaya Response:

Understood. Pursuant to WSCA-NASPO's response to questions 33 and 45 during the question and answer phase, (from the Question and Answer document).

1.15 Usage Reporting Requirement

All Data Communication Provider's will be required to provide quarterly usage reports to the WSCA-NASPO Contract Administrator or designee. The initiation and submission of the quarterly reports are the responsibility of the Data Communication Contract Provider. You are responsible to collect and report all sales data including your resellers and partners sales associated with your Master Agreement. There will be no prompting or notification provided by the WSCA-NASPO Contract Administrator.

Quarterly reports must coincide with the quarters in the fiscal year as outlined below:

- Quarter #1: July 1 through September 30, due annually by October 30.
- Quarter #2: October 1 through December 31, due annually by January 30.
- Quarter #3: January 1 through March 31, due annually by April 30.
- Quarter #4: April 1 through June 30, due annually by July 30.

Respondents must identify the person responsible for providing the mandatory usage reports. This contact information must be kept current during the Master Agreement period. The WSCA-NASPO Contract Administrator must be notified if the contact information changes. The contact information for the person responsible for the mandatory quarterly usage reporting must be specified per Section 3.1.5.

The purpose of the Master Agreement usage-reporting requirement is to aid in Master Agreement management. The specific report content, scope, and format requirements will be provided to the awarded Data Communications Products and Services Provider's during Master Agreement execution. Some WSCA-NASPO States may require additional reporting

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

requirements. Those requirements will be addressed through the individual participating entity's Participating Addendum process. Failure to comply with this requirement may result in Master Agreement cancellation.

Avaya Response:

Understood. Pursuant to WSCA-NASPO's response to question 70 during the question and answer phase, (from the Question and Answer document).

1.16 Standard Contract Terms and Conditions

Any Master Agreement resulting from this RFP will include, but will not be limited to, the WSCA-NASPO Standard Master Agreement Terms and Conditions, the State of Utah Additional Terms and Conditions (Appendix A) and any additional terms and conditions specific to WSCA-NASPO participating addendums for participating entities. The WSCA-NASPO Master Agreement Terms and Conditions and State of Utah Additional Terms and Conditions will take highest precedence in any contract resulting from this solicitation. Vendors must clearly identify exceptions to the WSCA-NASPO Standard Master Agreement Terms and Conditions and the State of Utah Additional Terms and Conditions in the bid submission. Vendor exceptions must include proposed solution language. Failure to submit exceptions and/or solution language will constitute vendor acceptance of WSCA-NASPO and State of Utah Additional Terms and Conditions. No third party terms and conditions will be allowed in resulting contracts awarded under this solicitation. Additional vendor terms and conditions must be submitted with the solicitation bid response for legal review and contract applicability. Submission of vendor terms and conditions with a bid response does not guarantee acceptance. Vendor terms and condition will not include any reference to website URLs that house additional terms and conditions. All terms and conditions associated with resulting contracts will be identified and attached to the WSCA-NASPO Master Agreement. The State of Utah reserves the right to accept, reject, and/or negotiate vendor terms and conditions after the award(s) have been made if it is in the best interest of the State of Utah. Participating States reserve the right to negotiate vendor terms and conditions during the Participating Addendum process. Vendor terms and conditions included with a bid response are limited to a maximum of 10 pages ($8^{1/2}$ x 11 inch paper, 10 pt Arial font, and single sided). Failure to adhere to these terms and conditions requirements may result in vendor disqualification.

Avaya Response:

Understood. Pursuant to WSCA-NASPO's response to question 31 during the question and answer phase, (from the Question and Answer document).

1.18 Discussions with Respondents (Oral Presentation)

An oral presentation by a Respondent to clarify a proposal may be required at the sole discretion of the WSCA-NASPO Master Agreement Administrator. However, the WSCA-NASPO Contract Administrator may award a Master Agreement based on the initial proposals received without discussion with the Respondent. If oral presentations are required, they will be scheduled after the submission of proposals. Oral presentations will be made at the Respondents expense.

Avaya Response:

Understood. Avaya respectfully submits that no terms and conditions shall be binding upon either party until Avaya has been awarded the bid reflected by this RFP and the parties have negotiated in good faith to reach a final and definitive written final agreement (and same is executed and delivered by the applicable parties).

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

1.29 E-Rate Requirement

All award contractors must commit to participation in the Federal Communication Commission's E-rate discount program established under authority of the Federal Telecommunications Commission Act of 1996. Participation in, and implementation of, this program must be provided without the addition of any service or administration fee by the contractor.

Avaya Response:

Understood. The Avaya SPIN (Service Provider Identification Number) number is: 143005214.

1.30 Section 508 Compliant

Respondents must meet all Federal and State regulations required to these type of products including but limited to accessible products by describing their support of the applicable provisions of the Workforce Investment Act of 1998, Section 508.

Avaya Response:

Understood. Section 508 VPAT statements of compliance for Avaya products can be found at: http://www.avayagov.com/accessibility/.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Section 3: Data Communications Provider Mandatory Minimum Requirements

3.1 General Information

This section contains requirements that must be addressed in order for your proposal to be considered for the evaluation phase of this RFP. All of the items described in this section are non-negotiable. Respondents are required to complete:

Mandatory Requirements (M) All Respondents must meet the (M) requirements listed in this section, and explain how the requirement is met. A 'no' response on the acceptance document or omission of the required explanation will disqualify the service from further evaluation.

3.1.1 Equipment Offering

(M) Identify Equipment Offering in sections 5.2.1-5.3.0.

Avaya Response:

Understood.

3.1.2 Service Offering

(M) Identify Service Offerings for all products offered in Sections 5.2.1-5.3.0.

Avaya Response:

Understood.

3.1.3 Insurance Requirement

(M) This pertains to the State of Utah insurance requirements. Other Participating States may identify different insurance requirements during the participating addendum process.

Data Communications Provider's and their authorized contractors shall procure and maintain insurance which shall protect the authorized contractor and The State and/or purchasing entity (as an additional insured) from any claims from bodily injury, property damage, or personal injury covered by the indemnification obligations set forth herein. The Data Communications Provider's authorized contractor shall procure and maintain the insurance policies described below at their own expense and shall furnish to the procurement manager, upon award, an insurance certificate listing the participating State(s) as certificate holder and as an additional insured. The insurance certificate must document that the Commercial General Liability insurance coverage purchased by the authorized contractor to include contractual liability coverage applicable to this Master Agreement. In addition, the insurance certificate must provide the following information: the name and address of the insured; name, address, telephone number and signature of the authorized agent; name of the insurance company (authorized to operate in all States); a description of coverage in detailed standard terminology (including policy period, policy number, limits of liability, exclusions and endorsements) and an acknowledgment of notice of cancellation to the participating States.

Authorized contractor is required to maintain the following insurance coverage's during the term of the WSCA-NASPO Master Agreement:

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

1) Workers' Compensation Insurance – The Data Communications Provider's authorized contractor must comply with Participating State's requirements and provide a certificate of insurance.

2) Commercial General Liability Policy per occurrence -$1,000,000. Coverage to include bodily injury and property damage combined single limit.

3) Business Automobile Policy to include but not limited to liability coverage on any owned, non-owned, or hired vehicle used by Data Communications Provider's authorized contractor personnel in the performance of this Master Agreement. The business automobile policy shall have the following limits of liability: Per Occurrence -$1,000,000, Annual Aggregate -$3,000,000, Annual Aggregate applying to products and services -$3,000,000. Coverage must include premises and operations, bodily injury and property damage, personal and advertising injury; blanket contractual, products and services, owner named as an additional insured. The State of Utah must be listed as an additional insured.

Within 10 days of contract award, the Contracted Supplier and/or Authorized Contractor must submit proof of certificate of insurance that meets the above requirements or the Participating States requirements.

Avaya Response:

Please reference Attachment A, State of Utah Standard Information Technology Terms and Conditions, Section 43 for Avaya responses.

In addition, please reference WSCA-NASPO Master Terms and Conditions, Section 15 for the Avaya requested modifications to Insurance.

3.1.4 Delivery

(M) The prices offered shall be the delivered price to any WSCA-NASPO purchasing entity. All deliveries shall be F.O.B. destination with all transportation and handling charges paid by the contractor. Responsibility and liability for loss or damage shall remain the Contractor until final inspection and acceptance (within 30 days after delivery for external damage and 30 days for any concealed damage) when responsibility shall pass to the Buyer except as to latent defects, fraud and Contractor's warranty obligations. The minimum shipment amount will be found in the special terms and conditions. Any order for less than the specified amount is to be shipped with the freight prepaid and added as a separate item on the invoice. Any portion of an order to be shipped without transportation charges that is back ordered shall be shipped without charge.

Avaya Response:

Please see RFP Section 7.2 and the WSCA-NASPO Master Agreement Terms and Conditions, Section 8, for the Avaya requested exceptions.

3.1.5 Service Offering Documentation

(M) Upon request, user and/or technical documentation should be supplied for all procured products and services. Manuals may be available via the Contracted Supplier's website. The manual shall contain user and technical instructions appropriate to the service.

Avaya Response:

Understood.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

3.1.6 Data Communications Provider Contract Administrator and Usage Report Administrator

(M) The Contracted Supplier shall provide a Contract Administrator to manage compliance with the scope and terms and conditions for this contract. The following Information, at a minimum, regarding the Contract Administrator shall be provided:

a. Administrator's number of years experience in the Data Communications Services business.

Avaya Response:

Upon award of the contract, Avaya will identify the individual that will be assigned as the Administrator. The average years of experience are more than 10 years in Data Communications Services.

b. Confirmation that the Data Communications Provider Contract Administrator has authority to enforce the scope of work and terms and conditions of the resulting contract.

The Contracted Supplier shall also provide a Usage Report Administrator responsible for the quarterly sales reporting described in Section 1.15 Usage Reporting Requirement.

Avaya Response:

The Contract Administrator will have authority to enforce the scope of work and terms and conditions of the contract.

3.1.7 eMarket Center Cooperation

(M) To be eligible for contract award, the Contractor must agree to cooperate with WSCA-NASPO and SciQuest (and any authorized agent or successor entity to SciQuest) with uploading a hosted catalog or integrating a punchout site. The contract requirements are in section 7.

Avaya Response:

Understood.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Section 4: Data Communications Provider Qualifications

4.1 General Information:

Provide any pertinent general information about the depth and breadth of the Offeror's product and service offerings and their overall use and acceptance in the Data Communications marketplace.

Avaya Response:

Avaya has a rich heritage in the Data Networking space, dating back to the mid 1980's (Welfleet and Synoptics), and is responsible for many industry firsts and pioneering technological advancements critical in the evolution to support converged infrastructures. Providing unified communication, contact center and video solutions, Avaya understands the need and requirements of the underlying Networking infrastructure to support real time communications. Avaya offers Networking solutions across the entire solution stack, applicable to Enterprise and Carrier customers alike, and to date has shipped over 100 million data ports and over 100 million voice lines globally.

The Avaya networking portfolio encompasses Ethernet Switching, Wireless LAN, Unified Branch Office and Access Control solutions as well as a full suite of Network Management products. A range of products, within each category of the Avaya portfolio, provide flexible deployment options ranging from small or remote branch locations, campus locations and even Data Center deployments. Understanding deployments can vary in size, key features in support of real time application requirements are present in all deployment specific scenarios rather than being limited to high end products where the deployment size may not warrant the additional expense.

Several Key Networking Product Highlights:

- Pioneered true stacking technology in the mid 1990's
- Pioneered Ethernet Switch Clustering in 2001 – Providing Active/Active core switching (no Spanning Tree)
- First to provide 10/100/1000 stackable switches
- First to break through the Terabit stacking boundary
- First to offer multi-Terabit stacking for data center top of rack/row to row deployments
- Invented and co-authored Shortest Path Bridging – IEEE/IETF standard for Ethernet Network Fabrics

Much of our response to section 5.2 references alternative designs available that leverages the new IEEE/IETF Ethernet standard (802.1aq/RFC6329) for network virtualization referenced in the last bullet above. While being respectful of the State of Utah and the WSCA-NASPO Participating States request for brevity, we have provided detail within the response to highlight the significant impact the newer standard offers the industry as a whole, since it's a departure from traditional designs. Avaya has been at the forefront of the development of the standard since 2002 and can be witnessed in both product breadth as well as adoption in the marketplace globally. The implementation of Avaya Shortest Path Bridging is referred to as Fabric Connect and can also be referenced in the Avaya Virtual Enterprise Network Architecture.

Avaya Fabric Connect – In Brief

The Avaya solution utilizes IEEE 802.1aq Shortest Path Bridging as the basis of its Network Fabric. This Virtual Services Fabric establishes a highly scalable, highly resilient, multi path Ethernet based network that maximizes use of all available bandwidth and simplifies the provisioning of the logical network by

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

decoupling it from the physical infrastructure. Administrators can now enjoy only light touch provisioning at the edge of the network fabric where the application meets the network. As an end-to-end protocol, not solely targeted at data centers, it offers a unique single protocol approach vastly reducing the overall complexity we face today.

All the provisioning points in between are automatically and instantly provisioned through a dynamic link state protocol. The result is a more dynamic network infrastructure that enables new applications to be deployed faster and easier and is more easily synchronized to the dynamic server environment. Avaya offers significant value adds with its Virtual Enterprise Network Architecture Virtual Services fabric including robust Level 2 and Level 3 service support and the ability to support dual-homing into the Fabric edge for resilient end-to-end networking.

While the ultimate focus of the RFP award is obviously limited to North America, it's important to highlight that the local availability of Avaya software, systems, service, and people is one of the primary reasons multinational corporations choose Avaya for their global communications and networking needs. Avaya has a business presence in 58 countries around the world, with customers in over 125 countries. Through direct teams, channel partners, system integrators, and service providers, Avaya can be found virtually worldwide.

Avaya has a global reach that includes:

- Personnel in 58 countries
- Over 8,500 international associates
- 3,400 Research and Development associates worldwide
- 28 Global Support Services Centers
- 18 Avaya Learning Center Training Locations
- 16 Executive Briefing Centers
- A worldwide network of more than 10,000 Developer Connect and Global Alliance Partners, Distributors, and System Integrators
- 246 globally deployed services parts stocking locations

Global Support Services Centers

Avaya has 28 Global Support Services Centers to provide network operations, proactive maintenance, technical support, and repair services, and to extend Avaya EXPERT^{SM} Systems Diagnostic Tools around the world.

The Avaya Global Support Services customer support model provides continuous around the clock support worldwide in a four-shift strategy:

- Monitoring, intervention, and priority management 24 x 7 x 365
- All X-action types from all platforms (calls, alarms, network operations centers, parts, and technicians)
- By customer, segment, channel, shift, severity, and service level objectives
- A full complement of backbone engineers to address cases across the portfolio

Avaya Global Support Services Centers provide best-in-class remote monitoring, diagnostics, and trouble resolution:

United States

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Redmond, Washington
- Denver, Colorado
- Chelmsford, Massachusetts
- Milpitas, California
- Dallas, Texas
- St. Petersburg, Florida

Avaya Learning Center Training Locations

Avaya Learning develops and delivers industry leading training for Avaya products and solutions. It specifically focuses on product launches, sales force, and channel enablement. This includes solution and executive selling, certification, and skills development. A blended learning approach offers a combination of self-paced, virtual interactive, and classroom learning environments to maximize effectiveness and decrease the time required to reach proficiency. Avaya Learning supports and maintains the Avaya Learning Center (http://www.avaya-learning.com) where both course details and information on the Avaya Professional Credential Program can be found.

Avaya offers high quality online and instructor led training at one of the 18 Avaya Learning international training centers:

United States

- Basking Ridge, NJ
- Highlands Ranch, CO
- Miami, FL

Blue = Primary Training Locations
Red = Secondary Training Locations

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Executive Briefing Centers

The Avaya Executive Briefing Centers allow customers to view, discuss, and experience Avaya solutions in a live, production environment. Avaya has 16 Executive Briefing Centers worldwide:

United States

- Basking Ridge, NJ
- Coppell, TX
- Denver, CO
- Fairfax, VA
- Lisle, IL
- New York, NY
- Santa Clara, CA

Global Services Parts Stocking Locations

Avaya has 142 Global Services parts stocking locations in the United States.

4.2 Warranty

Specify the Offeror's standard warranty offerings for the products and services proposed in the response to this RFP.

Avaya Response:

Please see RFP Section 7.2.5 and the WSCA-NASPO Master Agreement Terms and Conditions Section 30 for the Avaya requested exceptions.

As stated above, Avaya's warranty offerings are provided in its response to Section 30 of the WSCA-NASPO Master Agreement Terms and Conditions, however, since warranty does not include any type of proactive monitoring and/or alarm resolutions, Avaya recommends customers also purchase a Maintenance Services agreement or Avaya Operation Services (Managed Services) agreement, to be in effect immediately after implementation.

4.3 Website

Award contractors are required to establish and maintain a website applicable to the WSCA/NASPO contract which will allow Participating States to see applicable contract price list, discounts on said price list, approved resellers or partners for their state and any additional information that may be required to assist the participating states in obtaining information concerning the contract award. The State of Utah representing WSCA/NASPO reserves the right to require the award contractor to add additional items to assist in this process. Specify Websites used by the Offeror to facilitate customer ordering under awarded contracts. This is a mandatory requirement.

Avaya Response:

Avaya has an existing website for federal and state contracts. Upon award, Avaya will post the WSCA-NASPO contract to the Avaya site http://www.avaya.com/usa/industry/state-and-local-government/?view=procurement

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

4.4 Customer Service

Specify the Offeror's standard customer service policies and detail the escalation process used to handle customer-generated issues.

Avaya Response:

Today's rapidly changing business environment combined with the unprecedented pace of communications technology innovation is putting companies between a rock and a hard place. IT departments are facing a wide range of challenges such as growing complexity and decreasing resources that are preventing them from performing at their best and making it increasingly difficult for businesses to remain competitive in an uncompromising marketplace. Special skills and tools are required to effectively support and manage existing environments as well as new technologies.

Avaya Support Services offers a structure that has been developed specifically to meet the needs of Avaya communications system customers. Avaya has more than 5,800 technical associates have thousands of industry certifications that are located across the globe that have the skill and know how to assist in complex integration and troubleshooting cases. Avaya provides all support coverage customers with remote monitoring, diagnostics, testing, and resolution through Avaya Support Services centers, which are staffed 24 hours a day, 7 days a week, 365 days a year, including holidays. Major alarms and issues continue to be worked with the Support Services proactive tools and follow the sun philosophy. Reports and alarms are tracked through the technical service center Service Desk for real time updates and customer status.

Avaya is constantly looking for ways to improve the speed and accuracy of response for our customers. As part of this ongoing support, a team of developers has integrated several powerful technologies into the Avaya EXPERT Systems[sm] Diagnostic Tools, a patented set of tools that uses artificial intelligence for trouble detection, diagnosis, and repair around the clock. This leading edge technology is unique to Avaya and is incorporated into the overall Avaya strategy for providing service, which is focused on maintaining the highest availability and reliability levels of Avaya solutions. EXPERT Systems are able to test and clear about 99% of Avaya system generated alarms remotely. Avaya can detect even small departures from prescribed performance parameters, and begin to respond immediately to alarms issued by the self diagnostic capabilities built into the Avaya communications systems.

The premier remote Support Services technical service centers are comprised of Service Desk, Emergency Recovery services, and Backbone teams including tiers of experienced and trained personnel. Team members are located in four primary contact centers globally, several locations in North America, and in numerous centers internationally. In addition, Avaya Support Services team members have immediate access when necessary to Tier 4, the Avaya Labs Research and Development teams, which develop and enhance our award winning products. Solution focused service delivery team members are readily available to provide our customers with the highest levels of remote technical service support. Avaya resource algorithms are constantly adjusted to meet our customer's service requirements to provide timely resolution to issues.

Avaya Onsite Field Services has overall responsibility for customer location work activities in North America, and consists of highly trained Customer System Engineers, Regional Solution Engineers, and their management team. The Support Services Field Services team coordinates, supports, and performs the onsite functions necessary for all Avaya provided installations and maintenance.

Onsite Field Services is further supported by the Avaya Support Services remote technical service centers. These Support Services centers are staffed by technical associates, including technicians, engineers, helpline personnel, and managers who provide support for Avaya Communications Systems, IP Telephony, Unified Communications, Contact Centers, Call Management Systems, Voice Response Systems, Mobility solutions, Small and Medium Business Solutions, and Video Solutions. Avaya Support Services provides support directly to Avaya customers. By calling the designated telephone number (toll-free) or via the Avaya support website, you can consult with some of the best technical product specialists

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

at Avaya. Working quickly and effectively, these experts can handle all types of service problems and provide critical support remotely.

The Global Support Services Management Escalation Activity process provides a means to engage our management team to help manage your open service request issue with the appropriate technical resources and the proper sense of urgency.

What to expect when a Management Escalation Activity is created on your open Service Request:

- The Management Escalation Activity will be assigned to your Service Request owner's Manager, or backup Manager(s) if unavailable.
- The assigned Manager will contact the Management Escalation Activity requestor. Our objective is to respond within 30 minutes or less to address the issue

To create the Management Escalation Activity on the web at www.support.avaya.com:

- Access the open Service Request from Check Case Status/My Reports under the Self Service option
- Under Updates, Select Add
- From the drop down menu labeled: What type of update? select Management Escalation
- Complete the fields labeled Circumstances initiating escalation and Business Impact
- Update contact information if appropriate and select SUBMIT
- The Management Escalation Activity will be assigned to the Service Request owner's Manager, or backup Manager(s) if unavailable
- The assigned Manager will contact the Management Escalation Activity requestor within the designated time period (minimum 30 minutes) to address the issue

To create the Management Escalation Activity by calling your normal maintenance support number:

- Input the open Service Request number when prompted by the automated system to be routed to the current owner of the Service Request
- The Service Request owner will attempt to address your concern; if the Service Request owner is unavailable he/she will provide instructions in their voice mail greeting on how to reach another Global Support Services associate who can assist you

4.5 Firm

a. Provide a brief history of your firm including the following:

1. Number of years providing Data Communications Services being offered in response to this RFP.

Avaya Response:

Avaya pioneered Switch Clustering and brought to market this technology over 12 years ago (US Patent number 7,173,934, 7,719,958 B1, 7,463,579). This technology virtualizes a switch cluster and offers sub 20 millisecond recoveries from common failures with the ability to utilize all available links. What makes our implementation different from competitive implementations is our ability to support this not only on our high end core Ethernet products but across the Ethernet portfolio. This allows customers to cost effectively deploy resilient solutions for small, medium, and large network sizes.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

The other important differentiator is that high availability is not limited to only the Switching network but to the total network. This extends to attached Servers, Appliances, and WAN Routers, any device that supports Link Aggregation. And finally it offers user pre-session load sharing on all uplinks from the access switches to the core automatically without any additional hardware, software, or configuration required.

2. Number of separate services provided in each of the area categories described in this RFP.

Avaya Response:

Avaya is providing the following services for each of the proposed categories:

- Avaya maintenance service
- Avaya Professional Services installation services
- Avaya Operations Services managed service offerings

b. Describe specifically what makes your firm a stable long term partner for WSCA-NASPO.

Avaya Response:

Avaya remains robust with strong revenue, profitable expansion, positive cash flow, and positive market sentiment. In FY2012, Avaya generated $5.2 billion in revenue. Additional financial data is available at http://investors.avaya.com.

While many competitors are inwardly focused as they redefine themselves due to financial difficulties, Avaya is profitable and remains focused on meeting our customers' business communications needs. This financial health allows us to continue to invest in the future through research and development via Avaya Labs, strategic acquisitions, and a seasoned management team. We continue to add opportunities in high-growth regions such as Asia-Pacific and Central and Latin America, while enhancing leadership in key US and European markets.

Acquiring Nortel Enterprise Solutions dramatically strengthened Avaya's leadership position in business communications and together the combined company boasts some 1.5 million customers with 100 million lines and 10,000 channel partners around the globe.

In contrast to some competitors, Avaya has never had to seek bankruptcy protection.

c. Describe specifically what information the Data Communications Provider contract administrator would provide at annual meetings with an entity that has executed a participating addendum.

Avaya Response:

The Contract Administrator will provide an overview of the usage reports, review any product changes, price list updates as well as any updates to the website, if applicable The Contract Administrator will collaborate with the Participating Entities to understand the preferred format and content of the meeting and adjust the content to meet the requirements of the entity.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

d. Describe how you plan to implement the contract including having a single point of contact to perform and manage all aspects of this contract.

Avaya Response:

Avaya will assign a primary Contract Administrator as the single point of contact to manage all aspects of the contract. The Contract Administrator will have a team of resources that will perform the functions required to deliver the administration and eCommerce requirements of the WSCA-NASPO contract and applicable Participating Addendums.

e. Describe in detail your firm's escalation management plan including contact information.

Avaya Response:

The State of Utah and the WSCA-NASPO Participating States first line of contact for any escalation issues is Teresa Just, she can be reached at: 801-975-5707. If other necessary escalations are required; then Michael Lopez would be contacted, he can be reached at: 480-446-5706.

4.6 Authorized Sub Contractor Relationships

Respondents may propose the use of Servicing Subcontractors or partners however, the Contractor shall remain solely responsible for the performance under the terms and conditions of the Contract if Servicing Subcontractors are utilized. This includes sales report information. The Contractor will be responsible to collect, and report this information from all partners or resellers representing your contract.

Avaya Response:

Please see RFP Section 7.2.8 and the WSCA-NASPO Master Agreement Terms and Conditions Section 3 for the Avaya requested exceptions.

Upon award of Bid Avaya will identify subcontractors / fulfillment partners in the applicable Participating Entity-Addendum with each State, as each State is added to the WSCA-NASPO agreement.

a. Briefly describe what your firm requires from potential contractors to become an "Authorized Data Communications Reseller". Provide an Authorized Contractor List.

Avaya Response:

Companies interested in selling Avaya products and services must first fill out an application and agree to the Avaya terms and conditions. During the application/evaluation process Avaya performs D&B on their financial positions, confirms they have a valid business license and meets with them to evaluate their business operations. Prospective Partners must ccomplete the Authorization Requirements for Sales and Design through Avaya Connect. The requirements and authorization policies create a purposeful barrier to entry so that only committed, competent, partners can sell our solutions. New partners have up to 180 days to complete the credentials that satisfy the minimum competency requirements:

- 1. Minimum Sales Credentials
  - Employ at least two Avaya Professional Sales Specialists per solution, per country
- 2. Minimum Design Credentials
  - Employ at least one Avaya Professional Design Specialist per solution.

Additional details regarding the Avaya Professional Credentials referenced above can be found at www.avaya-learning.com

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

The Data Expert specialization recognizes the partners that have demonstrated proficiency and expertise in the sales and service delivery of complex data networking solutions. This specialization is available globally to reward the commitment made by partners.

b. Describe in detail how your firm currently measures an authorized contractors' performance.

Avaya Response:

There are several ways in which we measure Partners performance; one such way is our Customer Satisfaction Surveys as well as Partner Satisfaction Surveys. The Customer Satisfaction Surveys and Partner Satisfaction Surveys are provided to assist our partners in managing customer relationships and the Partners relationship with Avaya. Avaya contracts with a third party research vendor, to solicit feedback from customers who have purchased from our participating partners throughout the year and from the Partners who have done business with Avaya.

Partners who wish to achieve the Avaya Connect levels of Silver, Gold or Platinum are required to produce a minimum number of customer surveys and achieve a specific satisfaction score in order to qualify for partner metal levels. Their performance is also measured by their revenue volumes. The Partners Channel Account Manager also performs Quarterly Business Reviews with their Partners to inspect all areas of their business; including Certifications are current, the viability of the business, and an overall performance review.

c. Describe in detail the process for revoking a designation as a sub contractor from an authorized contractor for issues related to customer service, or other authorized contractor performance related issues.

Avaya Response:

Once an issue has been identified with a Partner, whether it is for customer satisfaction, gray market, service quality, or failure to maintain certifications. Avaya will review the case. Depending on severity, the partner withstanding, any previous issues, the Partner can receive anything from a written warning ranging to the extreme to being de-authorized with a 30 day notification letter telling them to stop selling Avaya products and services.

d. Describe in detail how your firm will support and assist an authorized contractor in improving their performance and the corrective action process.

Avaya Response:

Depending on the issue, Avaya would work with on the performance concern. The Channel Account Manager supported by a team, including Channel Sales Engineers, Area Channel Leaders, and Networking Channel Account Manager's will develop a plan. The plan could to education, additional instruction, probation, or a review of all orders and certifications. Avaya supports the Partner Community and will review cases on a case by case basis depending on the issue.

e. Describe in detail the process that your firm uses to track and respond to issues and concerns from both your authorized contractors and from participating entities.

Avaya Response:

There are several ways that concerns can be raised, they can logged complaints with the Channel Account Manager who supports the Partner, the Area Channel Leader, Executive Escalation Desk (by call or e-mail), or through Distribution. Complaints are taken very serious as Partners represent Avaya in

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

the marketplace. Complaints are logged in and tracked to completion with the Executive desk, providing a formal documented response.

f. Describe in detail how your firm will track, report and verify sales from your designated Data Communication partners and authorized contractors.

Avaya Response:

Most Partners order directly through Distribution, there a few occasions that Partners order directly from Avaya, but this is an exception. Distribution reports weekly to Avaya all transactions from the previous week. Reporting includes the Partner selling the material, the End Customer who is receiving the material, what was ordered, the quantity of the items ordered, the price that distribution sold the items to the Partner at, the sales date, and the invoice numbers. The reporting is done at the Distribution level.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Section 5: Service Offering Qualifications

5.1 General Information

This section contains mandatory minimum requirements that must be met in order for your proposal to be considered for the evaluation phase of this RFP. All of the items described in this section are non-negotiable. Respondents are required to complete:

Mandatory Requirements (M) All Respondents must meet the (M) requirements listed in this section, and explain how the requirement is met. A 'no' response on the acceptance document or omission of the required explanation will disqualify the service from further evaluation.

5.1.1 General Business Requirements

Each provider must meet the following mandatory general business requirements:

5.1.2 Terms and Conditions

(M) Respondents must indicate their acceptance of the State of Utah Standard Terms and Conditions in addition to the WSCA-NASPO Terms and Conditions attached to this RFP as Attachment A and Attachment B. Any exceptions to these terms and conditions must be clearly identified in bid response and during the question and answer period on BidSync. Significant exceptions may constitute grounds for rejecting Respondent proposals.

Avaya Response:

Pursuant to WSCA-NASPO's response to WSCA-NASPO's response, during Question and Answer phase, to Question #31 (from the Question and Answer document), please refer to RFP Section 7.2, and Avaya requested exceptions to WSCA-NASPO Master Agreement Terms and Conditions and the State of Utah Standard Information Technology Terms and Conditions.

5.1.3 Experience

(M) Respondents must be able to provide reference service contracts from a minimum of five government or commercial customers for their Data Communications Product and Services offerings. Government references are preferred. References must include environments and complexity that is similar in scope to those described within this RFP. Any proposals from Respondents that cannot meet these requirements will not be considered. The Respondent must provide specific contact information describing their reference service contracts, which may be verified.

Avaya Response:

Below are references with Avaya service contracts.

Customer	Contact	Phone	Title
University of Washington	Roland Rivera	206-543-2276	Director, Networking Strategy and Telecommunications
Salt Lake City Airport	Lisa Oldham	801-575-2921	Airport IT Manager
Salt Lake City Airport	Alan Rohlfing	801-575-2495	Airport Telecom Manager
Weber County	Leonard Call		IT Director
Box Elder County	Nathan Hammer		Network and Telecom Manager
Granite School District	Dale Robert	385-646-4588	IT Director

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

5.1.4 Financial Stability

(M) The Data Communications Product and Services vendor must provide audited financial statements to the State and should meet a minimum Dun and Bradstreet (D&B) credit rating of 4A2 or better, or a recognized equivalent rating. Please provide the Respondent's D&B Number and the composite credit rating. The State reserves the right to verify this information. If a branch or wholly owned subsidiary is bidding on this RFP, please provide the D&B Number and score for the parent company that will be financially responsible for performance of the agreement. Prime contractors working on behalf of Respondents must submit financial statements that demonstrate financial stability, and adequate working capital, but do not need to meet 4A2 credit rating requirements.

Avaya Response:

Though Avaya is a privately held company, it nevertheless discloses its financial status on a quarterly and annual basis, with the reports filed with the SEC. This information is furnished in lieu of any requested financial, credit and/or bank references.

Financial information about Avaya, including annual (audited) and quarterly reports, may be found at Avaya Investor Relations home page, which provides a link to Avaya's most recent filings with the SEC: http://investors.avaya.com/sec/sec.asp

In FY2012, Avaya generated $5.2 billion in revenue. Summary financial data for 2010-2012 is provided in the table below.

Avaya Revenue Summary for 2010-2012

Revenue by Year ($ in Millions)	2012	2012%	2011	2011%	2010	2010%
Sales of Products	$2,672	52%	$2,976	54%	$2,606	52%
Services	$2,499	48%	$2,571	46%	$2,454	48%
Total Revenue	$5,171		$5,547		$5,060	
Research and Development	$464	9.0%	$461	8.0%	$407	8.0%

Annual (audited) financial information about Avaya is found at: http://investors.avaya.com/sec/sec.asp?type=annual. The financial statements for fiscal year ended September 30, 2012, begin on Form 10-K page 72 and shows three years worth of financial information.

5.1.5 Other General Responsibilities

(M) The Respondent must provide the personnel, equipment, tools, and expertise to meet the requirements in this RFP.

(M) Computer applications and Web sites must be accessible to people with disabilities, and must comply with Participating entity accessibility policies and the Americans with Disability Act.

(M) Applications and content delivered through Web browsers must be accessible using current released versions of multiple browser platforms (such as Internet Explorer, Firefox, Chrome, and Safari) at minimum.

Avaya Response:

Understood.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

5.2 Data Communications Services – Requirements

Offerors may respond to any of the sections where they have substantive product offerings that address the scope detailed in each Section from 5.2.1-5.3.0. All Offerors must include a response to section 5.31 services, that addresses products proposed in 5.2.1-5.3.0.

Products may be used by the states in branch offices, main government offices and data centers, and by overall government data communications providers offering carrier class services. Responses should consider this breadth of use and users.

The scope and context of this solicitation does not include endpoints such as cell/smart phones, other mobile devices or devices designed exclusively for use by individual users. It is focused on the equipment and software infrastructure required to support provisioning of a variety of network services within a modern digital network. The user context will vary from branch offices through enterprise and statewide data communication network installations. Respondents should offer a range of solutions that are appropriate for installations of varying size and complexity.

5.2.1 DATA CENTER APPLICATION SERVICES - Application networking solutions and technologies that enable the successful and secure delivery of applications within data centers to local, remote, and branch-office users using technology to accelerate, secure, and increase availability of both application traffic and computing resources.

5.2.1.1 Virtualized Load Balancers - Virtual devices that act like a reverse proxy to distribute network and/or application traffic across multiple servers to improve the concurrent user capacity and overall reliability of applications. Capabilities should include:

- SSL (Secure Sockets Layer) Off-loading
- Caching capabilities
- Layer 4 Load Balancing
- Layer 7 Load Balancing
- Detailed Reporting
- Supports multiple load balancers in the same system for multiple groups
- Supports TLS1.2

Avaya Response:

Avaya will not be proposing Virtualized Load Balancers.

5.2.1.2 WAN Optimization - An appliance utilizing a collection of techniques for increasing data-transfer efficiencies across wide-area networks (WAN). Capabilities should include:

- CIFS (Common Internet File System) acceleration
- Data Compression
- SSL encryption/decryption for acceleration (Optional)
- Layer 4-7 visibility
- Application Specific optimization

Avaya Response:

Avaya will not be proposing WAN Optimization.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

5.2.2 NETWORKING SOFTWARE - Software that runs on a server and enables the server to manage data, users, groups, security, applications, and other networking functions. The network operating system is designed to allow shared file and printer access among multiple computers in a network, typically a local area network (LAN), a private network or to other networks. Networking software capabilities should include:

- Restartable Process
- High availability options
- Targeted operating systems, i.e. DC, campus, core, wan, etc.
- Operating System Efficiencies

Avaya Response:

Avaya Unified Communications Management provides fully integrated, comprehensive management capabilities across data and voice, over both wired and wireless networks. To date, Avaya is the only vendor that can provide integrated management across these network types. Avaya Unified Communications Management offers a web-based, centralized, one-stop-shop management portal, delivering a unified view of the network that integrates workflows and helps reduce networking gear installation, configuration, and maintenance time. The applications in the Unified Communications Management portfolio simplify the network requirements associated with managing faults, installation, configuration, performance, IP Flow, Quality of Service policies, telephony, and messaging.

Benefits Across the Network

- Applications can intelligently communicate and share information, helping reduce data entry and potential errors while increasing workflow speed.
- Centralized authentication with single sign-on helps enable easy and secure access to appropriate applications.
- Support for heterogeneous network infrastructures offers an all in one management suite across the enterprise, virtually eliminating the need to run multiple management tools from different vendors.
- Easy to use templates and wizards can simplify the setup of new and unfamiliar technologies across network devices.
- Web-based applications allow network management from anywhere, facilitating outsourcing to lower cost centers.
- Common look and feel across applications can decrease the learning curve for IT personnel and save on training costs.
- Application co-residency allows hosting of management applications on a single server, helping to significantly save on capital expenses.
- Avaya Unified Management accommodates multiple network management applications on a single server.

5.2.2.1 Network Management and Automation - Software products and solutions for data center automation, cloud computing, and IT systems management.

Avaya Response:

Avaya Virtualization Provisioning Service is a network management application that synchronizes Avaya Ethernet switch provisioning with an enterprises VMware virtual server environment. It can streamline data center operations by synchronizing and automating network and virtual server configuration

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

processes. The solution increases IT efficiency, reduces time to service, and enables consistent application performance in a highly dynamic, virtualized data center environment.

Server virtualization is already well adopted. The next step for many enterprises is mobilization of Virtual Machines, where Virtual Machines migrate from server to server, from corporate data center to data center, and from private to public clouds. These moves can be triggered by maintenance schedules, failures in the underlying server, exceeding server performance thresholds, or for disaster avoidance, such as a hurricane forecast.

Avaya Virtualization Provisioning Service can deliver the following benefits:

- Increase IT efficiency
  - Streamline data center provisioning processes, enabling freedom from error and delay
  - Synchronize network to changes made in the virtualized server environment to automate application mobility
  - Resolve network issues faster through an end to end view of the virtualized network, spanning applications, servers, and network devices
- Reduce time to service for deploying new applications
  - When deployed within and between data centers, it works with Avaya Fabric Connect - Virtual Services Fabric to limit network provisioning to the edge
  - Automates edge provisioning based on changes to the application and server environment
- Deliver consistent application performance in a highly dynamic, virtualized environment
  - Alleviates connectivity and performance issues
  - Allows network devices to be appropriately provisioned before Virtual Machines are activated or moved

Overall Architectural Response:

Providing support of data center automation and cloud computing support, Avaya Fabric Connect technology creates the ability to provide an end to end network architecture that enables enterprises to build a cloud-grade network designed for real time applications. While not a piece of software, rather an enabling technology inherent within the Ethernet products proposed in the RFP response, it's important to highlight as it offers the ability for easily creating private or hybrid clouds while reducing overall network management. Utilizing standards based Network Virtualization capabilities offered by the Avaya Fabric Connect technology, eases overall IT network administration and enables computer, storage and hypervisor solutions to better utilize their own automation controls. Virtualizing the network can for instance allow disparate computer farms or storage to believe they are racks apart on the same Layer 2 segment when in actuality can be in completely different data centers.

Through a suite of new and emerging virtualization techniques, based on standards based methods, enterprises can eliminate complex and inefficient legacy protocols, create a more reliable, secure and dynamic network infrastructure, and allow IT departments to be more responsive to business needs while driving down operating costs. With Avaya Fabric Connect technology, the following key features are gained:

- Build a private cloud so that applications are accessible from anywhere, at any time, from any device.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Exponentially reduce time to service.
- Improve network availability by eliminating redesigns and reconfigurations within the critical network core.
- Enable IT to be more efficient by alleviating many of the manual, time consuming tasks that must be done in today's network environments.
- Have a more agile network that is easy to make changes to and roll out new services on.
- Simplify the network by eliminating complex legacy protocols.
- Drive down costs.

5.2.2.2 Data Center Management and Automation - Software products and solutions that capture and automate manual tasks across servers, network, applications, and virtualized infrastructure.

Avaya Response:

Avaya Virtualization Provisioning Service is a network management application that synchronizes Avaya Ethernet switch provisioning with an enterprise's VMware virtual server environment. It can streamline data center operations by synchronizing and automating network and virtual server configuration processes. The solution increases IT efficiency, reduces time to service, and enables consistent application performance in a highly dynamic, virtualized data center environment.

Server virtualization is already well adopted. The next step for many enterprises is mobilization of Virtual Machines, where Virtual Machines migrate from server-to-server, from corporate data center to data center, and from private to public clouds. These moves can be triggered by maintenance schedules, failures in the underlying server, exceeding server performance thresholds or for disaster avoidance, such as a hurricane forecast.

We can deliver the following benefits:

- Increase IT efficiency
  - Streamline data center provisioning processes, enabling freedom from error and delay
  - Synchronize network to changes made in the virtualized server environment to automate application mobility
  - Resolve network issues faster through an end to end view of the virtualized network, spanning applications, servers, and network devices
- Reduce time to service for deploying new applications
  - When deployed within and between data centers, it works with Avaya Fabric Connect – Virtual Services Fabric to limit network provisioning to the edge
  - Automates edge provisioning based on changes to the application and server environment
- Deliver consistent application performance in a highly dynamic, virtualized environment
  - Alleviates connectivity and performance issues
  - Allows network devices to be appropriately provisioned before Virtual Machines are activated or moved

Avaya Configuration and Orchestration Manager is a real time, web based, multiuser network configuration management solution. It offers configuration, provisioning, and troubleshooting for a wide range of technologies. Designed to support multiple users across an entire enterprise network, it is ideal

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

for companies that want a cost effective, easy to use and manage solution. It simplifies configuration and provisioning so valuable IT resources can focus on other important activities such as running the network.

In essence, the Configuration and Orchestration Manager helps organizations save resources and time. Specifically, it improves installation time related to getting Avaya Ethernet switches up and running on the network. Whereas it can take several hours using Element Managers or device CLIs to install 20 switches, Configuration and Orchestration Manager can complete the install within 20 minutes, over five times faster. It also offers configuration times of over three times faster while also decreasing the potential for errors associated with manual configuration. Whereas using Java Device Manager and CLI can take up to several hours, with Multi-Link Trunking wizards and templates, Configuration and Orchestration Manager can configure and automate a two device cluster in a couple of minutes.

We can deliver the following benefits:

- Saves time and operational costs.
- Protects your network from unauthorized changes, facilitates faster configuration and changes to the network, and reduces the potential for network downtime.
- Simplified, intuitive wizards and easy to use templates enable easy and cost effective installation and maintenance.
- Device element management accelerates processes, saves money, and frees up valuable IT resources.
- Audits logs for change audits, root cause analysis, and compliance.
- Centralized and simplified configuration management platform delivering secured, user authenticated and audit trailed configuration, and change management.
- Manage security updates giving network managers automated tools allowing password changes to be updated regularly and community strings to be properly configured.
- Automate routine backups enabling comprehensive disaster recovery plans that include regular device backups, improving staff efficiency.
- Increase reliability by automating configuration tasks from proven device configurations reduces the probability of network outages attributable to user error.
- Reduces change management and software update execution times.

5.2.2.3 Cloud Portal and Automation - Software products and solutions for cloud management with policy-based controls for provisioning virtual and physical resources.

Avaya Response:

Avaya will not be proposing Cloud Portal and Automation.

5.2.2.4 Branch Office Management and Automation - Software products and solutions for management of branch offices. Capabilities include remote troubleshooting, device management, WAN performance monitoring.

Avaya Response:

Services Level Agreement Monitoring (future offering) functionality is being incorporated across the Networking portfolio today, and this translates into the ability to monitor and report, link by link, device by device on the levels of service that users will be experiencing. Service Level Agreement Monitoring is being added to Avaya devices as new software releases are being released and a significant amount of products currently have the Service Level Agreement Monitoring agent included already.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Highlights of the offering and benefits:

- Shows network locations on world map
- Displays individual site performance as well as the relational performance among sites
- Tests the connections for jitter, delay and loss for audio, data, and video
- Proactively find service impacting conditions that can be resolved to improve the network performance
- Real time traffic simulation proactively verifies application behavior
- End to end issues and root causes easily identified without affecting end users
- Low overhead, low cost solution
- Embedded agents in Avaya devices eliminate need for expensive probes
- Proactively find service impacting conditions that can be resolved to improve the network performance
- Provides network quality statistics through various metrics, Jitter, MOS scores, delay, duplicate packets, DSCP marking, and proper queuing throughout the network
- Traces DSCP end to end

Avaya Visualization Performance and Fault Manager

The growing myriad of communications devices, the rising demand for anytime, anywhere connectivity and the increasing need for convergence have created new challenges to network operations. This includes how to manage the whole system from end to end.

Avaya understands network management and recognizes that offering you the right networking tools can lead to positive and significant benefits for your business. For example, network applications that automate tasks and reporting can improve efficiency. Having management tools within a single unifying framework can help improve workflow, reduce training requirements, and decrease the complexity of managing a complex network, while providing you with a smooth path to unified communications.

The Avaya Visualization Performance and Fault Manager can help to address the challenges and the need for convergence. Visualization Performance and Fault Manager is a Unified Communications Management ready application. It provides advanced network discovery, topology visualization, fault, and performance management.

We can deliver the following benefits:

- A holistic end to end view of the network (WAN, Remote offices) which improves the quality and reduces the time required to manage today's complex networks.
- Standards based management enables quicker access to any new device being added to the network and the instrumentation it provides.
- Centralized management versus proprietary domain management reduces the number of applications used to manage the network. It also reduces the data being presented thus providing an easier management experience.

IP Flow Manager is a unique network management software tool that enables administrators to monitor, view, and diagnose problems at the application level and then use this flow based data to make informed decisions about the network. The IP Flow Manager works in conjunction with Avaya Ethernet Switch portfolio. The complexity of today's enterprise networks, type of application traffic carried, and the growing demand for strict adherence to Service Level Agreement for latency have placed considerable burden on administrators. These networks have evolved into a newer paradigm where it is seen more as a service, that is resilient to failures and scalable as the demand for bandwidth and resource sharing grows.

We recognize it is imperative that administrators are equipped with tools that not only provide detailed visibility of their network but also an expanded view of application behavior and performance.

Avaya IP Flow Manager addresses the need to provide tools that effectively monitor, analyze, and report application behaviors, and their bandwidth utilization trends. IP Flow Manager is a Unified Communications Management ready application that is fully web-based and uses the standard IP Flow technology. Delivering deeper analysis using packet capture, trending, and threshold alert notification, this tool permits administrators to monitor, view, and diagnose problems at the application level.

We can deliver the following benefits:

- A holistic end to end view of IP Flows providing a realistic assessment of network bandwidth utilization and application behavior over a period of time
- Standards based management supporting both IPFIX, NetFlow v5 and v9 and thereby making it an excellent tool to do flow capture and analysis in a multivendor network deployment
- Packet capture and analysis facilitates deeper diagnosis of network problems
- IP Flow Manager allows users to monitor voice traffic for planning purposes and supports protocols such as RTP, SIP, and unified stimulus

5.2.3 NETWORK OPTIMIZATION AND ACCELERATION - Devices and tools for increasing data-transfer efficiencies across wide-area networks.

Avaya Response:

Avaya will not be proposing Network Optimization and Acceleration.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

5.2.3.1 Dynamic Load Balancing - An appliance that performs a series of checks and calculations to determine which server can best service each client request in order to select the server that can successfully fulfill the client request and do so in the shortest amount of time without overloading either the server or the server farm as a whole.

Avaya Response:

Avaya will not be proposing Dynamic Load Balancing.

5.2.3.2 WAN Acceleration - Appliance that optimizes bandwidth to improve the end user's experience on a wide area network (WAN). Capabilities should include:

- CIFS acceleration
- Data Compression
- SSL encryption/decryption for acceleration (Optional)
- Layer 4-7 visibility
- Application Specific optimization

Avaya Response:

Avaya will not be proposing WAN Acceleration.

5.2.3.3 High Availability and Redundancy - Limits any disruption to network uptime should an appliance face unforeseen performance issues. Transparently redistributes workloads to surviving cluster appliances without impacting communication throughout the cluster.

Avaya Response:

Avaya will not be proposing High Availability and Redundancy.

5.2.4 OPTICAL NETWORKING - High capacity networks based on optical technology and components that provide routing, grooming, and restoration at the wavelength level as well as wavelength based services.

Avaya Response:

Avaya will not be proposing Optical Networking.

5.2.4.1 Core DWDM (Dense Wavelength Division Multiplexing) Switches - Switches used in systems designed for long haul and ultra long-haul optical networking applications.

Avaya Response:

Avaya will not be proposing Core Dense Wavelength Division Multiplexing Switches.

5.2.4.2 Edge Optical Switches - Provide entry points into the enterprise or service provider core networks.

Avaya Response:

Per answers to the questions submitted as part of the bid process, regarding the accepted inclusion of Course Wave Division Multiplexing offerings, Avaya is including the following response:

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

While NOT proposed as photonic switching platforms, all proposed Ethernet switching devices in section 5.2.8 have Coarse Wave Division Multiplexing capabilities from a pure Layer 1 aspect only. This includes Ethernet Routing Switch 3000/4000/5000/8000 and Virtual Services Platform 4000, 7000, and 9000 series products. Since Wave Division Multiplexing capabilities were specifically called out in the RFP, we want to provide an understanding of Avaya flexibility in utilizing those capabilities. Dense Wavelength Division Multiplexing capabilities are currently under product certification and will be added to devices in section 5.2.8 in the coming months.

Avaya does not offer traditional photonic layer switching capabilities, such as wavelength grooming, wavelength restoration or wavelength based services. However, having had a legacy in working with photonic switching platforms, Avaya does offer value add with its own Layer 2 mechanisms for link aggregating links across a photonic transport, and addressing potential photonic layer issues through layer 2 heartbeat information provided by Avaya Virtual Link Aggregation Control Protocol. Virtual Link Aggregation Control Protocol extends the capabilities of the IEEE LACP standard (802.1ad) by utilizing hello packets as a method to create “logically connected pairs” versus LACPs requirement for physically connected pairs. The use of Virtual Link Aggregation Control Protocol allows for LAG groups to be formed over intermediate systems, such as optical switches connecting different sites. Avaya Virtual Link Aggregation Control Protocol is supported across all proposed Avaya Ethernet Switches.

The use of Course Wave Division Multiplexing optics in the Avaya Ethernet portfolio provides a mechanism to address fiber exhaust issues in order to obtain a more ideal topological design, leverage wavelength isolation over a pair of fiber or address other customer specific challenges. The Course Wave Division Multiplexing offerings include 1Gig and 10Gig optic choices, up to 8 x separate wavelength choices and 40km or 70km distance choices. Up to 8 x wavelengths can be shared over a given pair of fiber.

In addition to the choices in wavelengths and maximum distance for each Course Wave Division Multiplexing optic type (40km/70km), there are also choices in the optical add/drop multiplexors available for splitting/combining wavelengths to meet specific site requirements.

5.2.4.3 Optical Network Management - Provides capabilities to manage the optical network and allows operators to execute end-to-end circuit creation.

Avaya Response:

Avaya will not be proposing Optical Network Management.

5.2.4.4 IP over DWDM (IPoDWDM) - A device utilized to integrate IP Routers and Switches in the OTN (Optical Transport Network).

Avaya Response:

Avaya will not be proposing IP over DWDM.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

5.2.5 ROUTERS - A device that forwards data packets along networks. A router is connected to at least two networks, commonly two LANs or WANs or a LAN and its ISP's network. Routers are located at gateways, the places where two or more networks connect, and are the critical device that keeps data flowing between networks and keep the networks connected to the Internet.

5.2.5.1 Branch Routers - A multiservice router typically used in branch offices or locations with limited numbers of users and supports flexible configurations/feature. For example: security, VoIP, wan acceleration, etc.

Avaya Response:

Avaya is proposing both its Secure Router and Virtual Services Platform for Service Aggregation requirements.

The Avaya Secure Router 2330 and 4134 delivers on its modular design supporting a range of advanced network services including: IPv4/IPv6 routing, high performance WAN, high density Ethernet switching, Power over Ethernet (Secure Router 4134), VoIP and security, in a single integrated chassis. The Secure Routers are applicable not only for enterprise branch deployments, but can scale to meet the needs of headquarters routing needs. Its highly modular design can handle a range of low density and high density LAN and WAN modules, as well as future voice modules.

The Avaya Secure Router 2330 is a modular, multiservice branch router that combines routing, voice gateway, wide area networking, and security services in a single cost effective platform. With integrated PSTN gateway and survivable voice, it also delivers a resilient voice option for branch and remote sites, in addition to its traditional IP data routing services.

The Secure Router 2330 delivers the following benefits:

- SIP based voice gateway and survivability feature allowing ongoing phone services even when remote connectivity to the voice call server is lost.
- SIP compatibility with Avaya call servers and phones and compatible with third party call servers, such as Broadsoft.
- Modular design, the Secure Router 2330 chassis has three module slots to support a range of options. Slots support both data and voice PSTN modules. The chassis also includes four Gigabit Ethernet and four Fast Ethernet ports for high speed LAN connectivity.
- Integrated security, powerful, fully integrated security including IPsec VPN and stateful packet firewall. Embedded VPN hardware acceleration provides high speed IPsec encryption for as many as 100 VPN tunnels. The stateful packet firewall includes SIP, H.323 and complete application layer gateway support.
- Voice media gateway services, the Secure Router 2330 can provide connectivity to the PSTN or other telephony devices as a voice gateway device. A range of voice interfaces, including T1/E1 PRI, ISDN BRI, FXS, and FXO allow flexible telephony connections.
- Highly resilient solution, Secure Router 2330 offers built in redundancy through hot swappable WAN and voice gateway modules, redundant power, VRRP failover and WAN link failure protection.
- Multiservice platform integrates multiple networking functions, including routing, WAN, LAN, security, and voice gateway services into a single device.
- Robust IP routing services include a full IPv4 and IPv6 protocol set, as well as BGP-4, and multicast capabilities.
- Flexible WAN connectivity: T1/E1, Serial, ISDN BRI, ADSL2+, and PRI WAN options allow connection over a variety of public and private WAN environments.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- WAN multilink services, Multilink PPP and frame relay WAN capabilities (MLPPP and FRF.15/16) allow bonding of multiple T1/E1 or other WAN links into a single virtual interface.
- Level 2 MPLS services: Secure Router 2330 can be deployed as a Label Edge Routing device with support for LDP, RSVP-TE, OSPF-TE, MPLS Fast Reroute, and Pseudowire capabilities.

The Avaya Secure Router 4134 delivers on the promise of the multi-services router. Its modular design supports a range of advanced network services, including IPv4 and IPv6 routing, high performance WAN, high density Ethernet switching, PoE, VPN, BGP4, OSPF, MPLS, VoIP, and Stateful firewall security, in a single integrated chassis. These capabilities allow businesses to realize the promise of the unified branch. The Secure Router 4134 can address the routing and connectivity needs of large enterprises as well as regional or even headquarter sites.

The Secure Router 4134 delivers the following benefits:

- Unique device that integrates WAN technologies, Routing, Switching, VPN, Security, IP Telephony, and Unified Communication application hosting in a single cost effective platform.
- Wire speed performance for toll quality VoIP and Unified Communications, with low latency and loss for small packets.
- Can host either Microsoft OCS software or Avaya Software Communication System on an embedded co-processor to simplify Unified Communications deployment at the branch.
- Extends convergence and Unified Communications applications to the branch office with performance, quality of experience, and better manageability than competing solutions.
- Integrated security, powerful, fully integrated security including IPsec VPN and stateful packet firewall. Embedded VPN hardware acceleration provides high speed IPsec encryption for as many as 1000 VPN tunnels. Stateful packet firewall includes SIP, H.323, and complete application layer gateway support.
- The Avaya Secure Router 4134 supports a wide range of LAN, WAN, voice gateway, and application options for converged branch and remote sites. WAN connectivity options include T1/E1, serial, ISDN, ADSL2+, channelized DS3/T3, and HSSI.
- Hot swappable modules, redundant power and port/platform resilience features deliver maximum reliability and resiliency. Survivable voice services allow continued voice calling when the primary IP connection is lost.
- WAN multilink services: Multilink PPP and frame relay WAN capabilities (MLPPP and FRF.15/16) allow bonding of multiple T1/E1 or other WAN links into a single virtual interface.
- Level 2 MPLS services: Secure Router 4134 can be deployed as a Label Edge Routing device with support for LDP, RSVP-TE, OSPF-TE, MPLS Fast Reroute, and Pseudowire capabilities.

Avaya Virtual Services Platform 4000 is the industry's first fabric enabled multiservice and multi-tenant edge device. It delivers fabric technology on a low cost Gigabit Ethernet and 10 Gigabit Ethernet access device that can be used to extend the reach of the fabric to branch locations while also providing local device connectivity in a single platform. Equipped with full multiservice functionality, a carrier grade operating system, PoE+ support, and AC and DC power options, it is a key component of the Avaya vision of extending the Avaya Fabric Connect technology across the entire network.

Avaya Fabric Connect combines decades of experience with Ethernet and Intermediate System to Intermediate System to deliver a next generation technology that combines the best of Ethernet with the best of IP. Avaya Fabric Connect creates a multipath Ethernet network that leverages Intermediate System to Intermediate System routing to build a topology between nodes dynamically. Traffic always takes the shortest path from source to destination, increasing performance and efficiency

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

The benefits of Avaya Fabric Connect to provide network virtualization to a customer are:

- Simple: Enabled via a single protocol as opposed to complex protocol overlays
- Scalable: Supports 16 million services
- Resilient: Sub-second failover times as opposed to seconds or minutes
- Agility and ease of deployment: Services can be configured whenever and wherever required with moves, adds, and deletes supported on the fly with simple command configuration at Fabric end points as opposed to complex hop by hop network wide configuration
- Efficient: Traffic always takes shortest path through the network with no blocked links as with STP
- A standards based fabric technology based on enhanced IEEE 802.1aq Shortest Path Bridging and IETF 6329

5.2.5.2 Network Edge Routers - A specialized router residing at the edge or boundary of a network. This router ensures the connectivity of its network with external networks, a wide area network or the Internet. An edge router uses an External Border Gateway Protocol, which is used extensively over the Internet to provide connectivity with remote networks.

Avaya Response:

Avaya is proposing both its Secure Router 4134 and Virtual Services Platform 4000 for Service Aggregation requirements. Please see response to 5.2.5.1 for details.

5.2.5.3 Core Routers -High performance, high speed, low latency routers that enable Enterprises to deliver a suite of data, voice, and video services to enable next-generation applications such as IPTV and Video on Demand (VoD), and Software as a Service (SaaS).

Avaya Response:

Avaya Ethernet Routing Switch 8000 and Virtual Services Platform 9000 are proposed for high performance Core Routing deployments where high speed and low latency is required. Leveraging carrier grade performance aspects of both offerings, the proposed solution also leverages Avaya Fabric Connect for network virtualization. Fabric Connect decouples the physical infrastructure from the connectivity services making the network more adaptive and dynamic with simple one touch provisioning. Flexible virtual service creation is key in providing Software as a Service support used in a private or hybrid cloud deployment.

The proposed Ethernet Routing Switch 8000 and Virtual Services Platform 9000 offer a simple to deploy, fast to converge, and scalable alternative to supporting traditional PIM multicast deployments. Utilizing Avaya Fabric Connect and Shortest Path Bridging, it eliminates the need for PIM and rendezvous points, rather uses IGMP at the edge and Shortest Path Bridging in the core of the network. It provides extremely fast recovery (~200ms) in the event of network failures as there is no dependency on unicast routes. Shortest Path Bridging fabric scalability includes support for tens of thousands of multicast streams. When using traditional PIM for multicast routing support, the Ethernet Routing Switch 8000 scales to 3,000 streams while the Virtual Services Platform 9000 scales to 8,000 streams.

Core Router – Gig Centric with 10Gig Capability

The Avaya Ethernet Routing Switch 8000 is a chassis based offering targeted at addressing large Core Ethernet switching needs within an Enterprise. Providing 720Gbps switching performance, the Ethernet Routing Switch 8800 is available in multiple chassis options:

- 10 slot featuring eight slots for interface modules

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- 6 slot featuring four slots for interface modules
- 3 slot featuring two slots for interface modules

In addition, there is also the Ethernet Routing Switch 8010CO Central Office 10 slot chassis, which is NEBS compliant for deployment scenarios that require a carrier class platform.

The Ethernet Routing Switch 8895SF switch fabric and CPU module is the latest version and offers significant enhancements in terms of CPU performance and memory capacity; it is also 50% more energy efficient. These advances allow the Ethernet Routing Switch 8895SF to natively support both existing and emerging services and applications that place intense demands on the networking infrastructure.

A range of high performance IO module options exist for the Ethernet Routing Switch 8000. These include a high density 10 Gigabit Ethernet module (12 ports per module and up to 96 ports per chassis), high density 48 port modules supporting 10/100/1000 copper or 1000BASE-X SFP connectivity (up to 384 ports per chassis), and an innovative hybrid combination module that concurrently supports 10 Gigabit Ethernet (x2), 1000BASE-X (x24), and 10/100/1000BASE-T (x8) ports. This combo module provides additional flexibility for smaller aggregation sites.

The latest generation interface modules feature Avaya Route Switch Processor network processing units enabling the switch to deliver new features through firmware updates as opposed to module replacement. Network Processing Units are large scale CPU arrays specifically designed for network related functions such as efficient examination and manipulation of packet headers.

The Avaya specialized high performance Network Processing Unit, the Route Switch Processor, is an in house development delivering fast path protection through its ability to support in life firmware upgrades while providing line rate switching and routing regardless of standards evolution. Avaya has been able to leverage this re-programmable capability to deliver new innovative features, such as IPv6, a flexible IP VPN suite, and the new Fabric Connect capabilities (IEEE/IETF Shortest Path Bridging), while maintaining hardware based performance levels. Equipment based on a traditional ASIC architecture is limited in that the functionality of the ASIC chipsets is set at a certain point in time and cannot easily adapt to future change. Typically this means that newer features and functionality are not supported only in hardware but require additional software processing that can adversely affect performance and increase latency until the next hardware refresh.

Having pioneered Switch Clustering capabilities more than a decade ago on the Ethernet Routing Switch 8000 platform, providing Active/Active core switching, Avaya Switch Clustering offers the ability for 2 x physically separate core switches to function as a single logical switch from a Link Aggregation standpoint. This allows for devices supporting Link Aggregation capabilities (third party switches, servers, and appliances) the ability to load balance across all available links, providing 70 millisecond failover in the event of failure, and removes the reliance on Spanning Tree based protocols for path selection. The combination of processing power, utilizing Active/Active core switches, also increases the overall processing power to over a Terabit worth of forwarding performance in the core.

The following are key highlights of the Ethernet Routing Switch 8000:

- Innovates with Avaya Fabric Connect: Extending IEEE/IETF Shortest Path Bridging delivering Layer 2 and Layer 3 and Multicast virtualization capabilities for the Core
- Traffic separation: helping to enable multi-tenant partitioning and regulatory compliance
- Delivers end to end cloud architecture
- Offers the industry's leading resiliency model, Avaya Switch Clustering, empowering the most demanding applications and boosting performance by forwarding Layer 2 and 3 traffic across all available links in an Active/Active approach

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Features field reprogrammable Network Processing Unit based interface modules that, unlike conventional ASIC-based hardware, maintain full hardware-based performance and optimization as functionality and services evolve
- Enables flexible virtualized Layer 3 deployment scenarios with device and network options: VRF-Lite, Avaya IP VPN-Lite, MPLS, and IETF IP VPN
- Offers high density 10 Gigabit Ethernet, very high density Gigabit and 10/100/1000 Ethernet for enterprise core and aggregation applications, delivering competitively high value, flexibility, and enhanced slot conservation with a Combo option
- Switch clustering resiliency model is extended to VMware Server virtualization in an iSCSI storage area network environment
- Supported by a unified management framework featuring AJAX compliant web-based common services, authentication, and audit logging, also benchmarks network traffic and identifies anomalous behavior using standards based IPFIX

Core Router – 10Gig Centric with Gig Capability and Future 40/100Gig Support

The Avaya Virtual Services Platform 9000 is a next-generation Ethernet Switching solution that delivers high performance, high capacity, and high availability for mission-critical Data Centers and very large Campus Core networks. The Virtual Services Platform 9000 is built upon proven Ethernet Routing Switch 8000 software, incorporates a fully programmable network processor unit that combines both high performance traffic forwarding and the flexibility to seamlessly evolve in line with new technologies and standards, and features Avaya carrier grade operating system. The Virtual Services Platform 9000 is designed to deliver a future ready, ultra-reliable network that provides high 10 Gigabit Ethernet density plus a seamless path to future 40/100G Ethernet, and simplified and agile virtual network infrastructures.

The Virtual Service Platform 9000 is currently offered in a twelve slot switch, providing 8.4Tbps switching performance (expandable to 27Tbps), and can scale to support up to 240 ports of 10 Gigabit Ethernet (or 480 ports of Gigabit Ethernet) in a highly resilient configuration. Ten of the slots are available for interface modules, 10G, 1G, and 10/100/1000. The remaining two slots are reserved for Control Processor modules, and up to six Switch Fabric modules can be installed into the rear of the chassis. While not proposed, a ten slot variant will be released in the coming months offering eight line card slots with the same Control Processor and Switch Fabric module densities. Other form factors are being discussed. In addition, while also not included in the RFP, additional cards supporting greater densities and speed choices are planned.

As a next generation platform, the Virtual Services Platform 9000 also supports the Avaya innovative suite of virtualization solutions, including Avaya Fabric Connect network virtualization offering. Leveraging experience from always-on networking capabilities added over more than a decade, the Virtual Services Platform 9000 supports Avaya Switch Clustering feature providing unmatched 20 millisecond fail-over times. With the addition of a carrier grade operating system, sets new standards for robustness with advanced diagnostic and self-healing capabilities.

In short, the Virtual Services Platform 9000 establishes a best of breed solution for high performance, high-availability networking. The Virtual Services Platform 9000 is ideally suited for deployments that:

- Require scalable, high density 10GbE today, and with continued growth will need to position for future 40/100GbE
- Suffer from performance or latency limitations that result in poor application responsiveness
- Demand carrier class resiliency at hardware and OS levels
- Need to simplify network infrastructure operations in a highly virtualized environment

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Are required to deliver virtual services for multiple customers or user groups in a Cloud computing environment
- Seek to maximize investment in server virtualization
- Desire a lossless ready solution should storage convergence become their preferred option

The following are key highlights of the Virtual Services Platform 9000:

- An ultra reliable platform at hardware and OS levels helping to provide uninterrupted business operations
- Delivers very high density 1 and 10 Gigabit Ethernet today, meeting immediate performance and reliability needs
- A highly flexible platform, offering an upgradable switching engine and an adaptable architecture that scales up to 27 terabits per second
- Is future ready for a seamless evolution to 40 and 100 Gigabit Ethernet
- Supports a sophisticated suite for device and network virtualization capabilities; delivering versatile, end to end, Level 2 and Level 3 services
- Helps to lower operating costs, by reducing management complexity and simplifying the architecture through network virtualization and programmable chipsets

5.2.5.4 Service Aggregation Routers - Provides multiservice adaptation, aggregation and routing for Ethernet and IP/MPLS networks to enable service providers and enterprise edge networks simultaneously host resource-intensive integrated data, voice and video business and consumer services.

Avaya Response:

Avaya is proposing both its Secure Router 4134 and Virtual Services Platform 4000 for Service Aggregation requirements. Please see the response to 5.2.5.1 for details.

5.2.5.5 Carrier Ethernet Routers - High performance routers that enable service providers to deliver a suite of data, voice, and video services to enable next-generation applications such as IPTV, Video on Demand (VoD), and Software as a Service (SaaS).

Avaya Response:

Avaya Ethernet Routing Switch 8000 and Virtual Services Platform 9000 are proposed for high performance Core Routing deployments where high speed and low latency is required. Leveraging carrier grade performance aspects of both offerings, the proposed solution also leverages Avaya Fabric Connect for network virtualization. Fabric Connect decouples the physical infrastructure from the connectivity services making the network more adaptive and dynamic with simple one touch provisioning. Flexible virtual service creation is key when providing Software as a Service support used in a private or hybrid cloud deployment. Please see the response in 5.2.5.3 for details.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

5.2.6 SECURITY

5.2.6.1 Data Center and Virtualization Security Products and Appliances - Products designed to protect high-value data and data center resources with threat defense and policy control.

Avaya Response:

Policy Control

Avaya Identity Engines product family is a premier, standards based, identity aware Network Access Control suite, having won Best of Interop finalist at Interop last year. As a vendor agnostic Policy Enforcement Engine, Avaya Identity Engines portfolio integrates with any current network infrastructure to provide the central policy decisions needed to enforce roles based Network Access Control. This is accomplished by combining the best elements of a next generation RADIUS/AAA server, the deep directory integration found in application identity offerings, and one of the industry's most advanced standards based policy engines. All this is done out of band for maximum scalability and cost effectiveness.

The Avaya Identity Engines portfolio provides the following key features:

- Centralized AAA: Provides centralized RADIUS and TACACS+ AAA services for network devices.
- Highly advanced, standards-based Extensible Access Control Markup Language policy engine: Applies access policies consistently and transparently across the network.
- Easy deployment model: Integrates seamlessly with existing networks and directories in a vendor agnostic approach.
- Simple policy set up: Manage access policies, posture check policies, VLAN provisioning rules, user store connections, and network switch security profiles via a simple user interface.
- High availability: Provides a highly available RADIUS and TACACS+ server as well as a highly available database service for Ignition policy decisions.
- Powerful user identity services: The administrator determines how Ignition searches multiple user stores for user credentials, user attributes, and groups.
- Dynamic session provisioning: Assigns each user to an appropriate VLAN, based on the attributes of the user or the context of the login.
- Rich support for non-802.1X devices: Industry leading MAC address authentication features to handle non-802.1X devices such as medical equipment and printers.
- Guest management: Securely supports guest and temporary users.
- User monitoring: Monitors users' network sessions in real time, keyed to identity.
- Reporting: Automatically generates and distributes network usage and authentication reports.
- TACACS+: Can be deployed to authorize and log all administrator actions on switches and devices that support TACACS+ authorization.
- Automation of Windows: based 802.1x supplicant provisioning, for either temporary or permanent use, through a dissolvable client.
- Captive Portal functionality: for wired or wireless users, where client 802.1x controls may not have been provisioned or are not warranted, providing controlled access to Network resources while establishing a unique fingerprint for each device. Combined with automation of 802.1x supplicant provisioning and Guest Management, establishes a foundation for BYOD initiatives.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Identity Engines Components:

Identity Engines Ignition Server

The Ignition Server is an easy to deploy identity and context aware policy engine that uses RADIUS and/or TACACS+ to connect with the existing network infrastructure and LDAP, Kerberos, NTLM, and RADIUS to connect with the identity and directory systems. It provides a central policy decision point for controlling access to the network and lets network administrators apply policies that evaluate user account details, switch details, and/or any RADIUS/TACACS+ attribute to determine network access. The Ignition Server streamlines access management, improves security, and satisfies reporting requirements.

The Ignition Server is a virtual appliance that can be deployed on a standalone x86 computer platform or as a VMware OVF file. The Ignition Server also comes in different sizes depending on the number of authenticators required. The Avaya licensing model is unique in that it is not based on concurrent client connections, which is unlimited. Licensing based on the number of authenticators (switches/switch stacks, and WLAN Controllers) provides substantially reduced cost and flexibility.

Below are the different sizes of Ignition Server offerings based on the number of authenticators being supported:

- Light: 5 x Authenticators
- Small: 20 x Authenticators
- Large: Unlimited Authenticators

Identity Engines Ignition Server – Additionally Licensed Features

TACACS+ Support: Support where TACACS+ may be in use, as opposed to RADIUS, requires a single license. The license is tied to the size of the Ignition Server deployed and simply enables the feature.

Microsoft NAP Integration: Support for MS NAP client integration requires a single license. Microsoft NAP client functions as the Windows System Health Agent and Enforcement Client. It validates the security posture of the device (anti-virus, anti-spyware, firewall and Windows Update) and sends Statements of Health to the Avaya Ignition Server. Clients can be automatically remediated, or provide a URL where users can go if failing the health check. The license is tied to the size of the Ignition Server deployed and simply enables the feature.

Identity Engines Guest Manager

The Avaya Identity Engines Ignition Guest Manager provides secure and simple network access for guests, while reducing the burden on IT staff by delegating control to potentially non-IT related staff. This could include Guest account provisioners at a Departmental level, front desk/receptionists, or even through self provisioning controls at a Kiosk or the client's own browser.

Guest Manager works in conjunction with the main Identity Engines Ignition Server and requires a single license to enable the feature, based on the size of the Ignition Server deployed. Guest Manager is installed on a customer provided Windows platform either as a standalone or Virtual Machine based server. Windows platforms include Windows XP Service Pack 3 (32 bit) or Windows Server 2003™ (32 bit and 64 bit) or Windows Server 2008™ (32 bit and 64 bit).

Key features include:

- Centralized access control: Manages guest authentication and access across wired, wireless and VPN networks.
- Delegated provisioning: Delegated provisioning lets designated greeters create and manage guest user accounts.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Self-provisioning: Allows guests to provision their own temporary accounts from kiosks or an online portal.
- Embedded database: Segregates guest accounts from enterprise directory.
- Auditing: Centralized log data enables detailed reporting of guest access.
- Bulk loading: Rapidly configures hundreds or thousands of guest accounts from database records.
- Policy driven: Network access rights and permissions are assigned based on guest's role in or relationship to the organization.
- Credit card payment: Integrates with in-house credit card payment systems without requiring staff involvement.
- SMS and email integration: Sends guest login credentials to the user's cell phone and/or email, allowing the use of hard to spoof guest identifiers.
- Automatic account termination: Discontinues guest access rights at a scheduled date and time.

Identity Engines Access Portal

Avaya Identity Engines Ignition Access Portal is a virtual machine based captive portal and firewall distribution that controls the access of client devices to the network. Access Portal blocks all traffic from client devices, and allows network access only after successful authentication. Access Portal allows guests or contractors with non-802.1X compatible equipment to authenticate and connect to the network. The Access Portal software is deployed as a VMware OVF file, and requires only a single license based on the size of the Ignition Server. Once enabled, Access Portal can be deployed an unlimited amount of times to meet specific needs.

Access Portal does not require client side software on the connecting user's device. Like the sign-on portals that provide guest wireless access in many hotels, Access Portal uses the user's browser to prompt for and collect the user's credentials. This allows Access Portal to provide controlled network access to client devices that are incompatible with the 802.1X protocol or not configured to use it.

Access Portal also provides Device Profiling. Device Profiling works on a Device Fingerprint which is a compact summary of software and hardware settings collected from a client device. In the Avaya Identity Engines Ignition Server environment, Device Profiling is used as an automated way to register the devices with the Identity Engines Internal Store.

Identity Engines Client for Accessing the Secure Enterprise Administration

Deploying 802.1x throughout an organization is a cumbersome process as each client requires configuration of the 802.1x supplicant. Avaya Identity Engines portfolio reduces this administrative burden by providing an automated and centrally managed approach using the Identity Engines Client for Accessing Secure Enterprise feature. The Client for Accessing Secure Enterprise functionality automatically verifies and corrects wired and wireless configuration on endpoint machines, automating the client configuration required to enable 802.1x and Microsoft Network Access Protection.

Working in conjunction with the Avaya Access Portal, the network administrator uses the Client for Accessing Secure Enterprise Administrative Console to build a configuration that specifies the end user settings for specific network access. This configuration is called a network profile. Network administrators can define multiple network profiles, each with its own configuration and behavior settings. The network administrator then builds deployment packages that contain one or more network profiles and deploys these packages directly to the Access Portal as a clickable link accessible once the user is authenticated.

From a client perspective, the Client for Accessing Secure Enterprise Application is a dissolvable application that guides a user while it applies the settings the network administrator configured for network access. The first time the end user connects to the network, they are presented with a link to the

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Client for Accessing Secure Enterprise application through the Access Portal captive portal page. If the end user agrees to the terms and conditions presented, the Client for Accessing Secure Enterprise application runs and automatically sets up the end user's network configuration. Configuration of the client can be set for permanent configuration or temporary where settings are removed after the session.

The Client for Accessing Secure Enterprise Management console can be deployed co-resident with the Guest Manager application, or on a standalone Windows machine. Windows platforms include Windows XP Service Pack 3 (32 bit) or Windows Server 2003™ (32 bit and 64 bit) or Windows Server 2008™ (32 bit and 64 bit). To use the Client for Accessing Secure Enterprise feature, a single license is required that is tied to the size of the Ignition Server being deployed.

Network Level Data Center Virtualization and Security

Avaya has various technologies providing security within and beyond the data center. A key method for providing security for services and applications is obviously through isolating those service and applications that don't need to interact. However, traditional Ethernet topology constraints typically force convergence of applications at the IP layer resulting in a need for enhanced security mechanisms where that convergence happens. In addition, a threat from one application has the potential of impacting other services sharing common Network equipment since a shared Ethernet control plane is in use.

While not a specific security appliance, Avaya Ethernet switching solutions proposed throughout section 5.2 offer the ability to provide isolation of services and applications within a data center and beyond, through the use of standardized IEEE 802.1aq (IETF RFC 6329) as a next generation Ethernet protocol. This protocol is also known as Shortest Path Bridging and is part of the Avaya Fabric Connect technology offering. Not only does Shortest Path Bridging provide isolation of applications that don't need to interact, but also provides a separate Ethernet based control plane that isolates applications from potentially disrupting the most important aspect of the network: The Network Core. Applications and services are essentially tunneled across the backbone thus removing the requirement for higher layer security appliances simply to address where legacy topology constraints force convergence at a higher layer (shared Ethernet or IP).

While security appliances are obviously required, deploying Shortest Path Bridging's next generation Ethernet technology can significantly reduce the number of security appliances as it doesn't require converging disparate applications at the IP layer simply due to traditional Ethernet topology constraints. Providing service isolation using Shortest Path Bridging, also reduces the complexity and risk of disrupting the core network as services are only provisioned at the edge of the network and not on every networking element in between. Removing traditional Ethernet topology constraints also provides flexibility in deploying security products and appliances where it makes sense based on application requirements and not the physical network topology.

Shortest Path Bridging is an inherent feature of the Avaya Data Center, Campus Core, Campus Edge and WAN Edge Ethernet switches (Ethernet Routing Switch 4800 and 8800 and Virtual Services Platform 4000, 7000, and 9000), providing service isolation over shared networking elements. We are responding to the RFP using those products in the appropriate sections of the RFP, but felt important to highlight in this section as it pertains to virtualization of services in a data center and its relative impact to overall security.

5.2.6.2 Intrusion Detection/Protection and Firewall Appliances - Provide comprehensive inline network firewall security from worms, Trojans, spyware, key loggers, and other malware. This includes Next-Generation Firewalls (NGFW), which offer a wire-speed integrated network platform that performs deep inspection of traffic and blocking of attacks. Intrusion Detection/Protection and Firewall Appliances should provide:

- Non-disruptive in-line bump-in-the-wire configuration

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Standard first-generation firewall capabilities, e.g., network-address translation (NAT), stateful protocol inspection (SPI) and virtual private networking (VPN), etc.
- Application awareness, full stack visibility and granular control
- Capability to incorporate information from outside the firewall, e.g., directory-based policy, blacklists, white lists, etc.
- Upgrade path to include future information feeds and security threats
- SSL decryption to enable identifying undesirable encrypted applications (Optional)

Avaya Response:

Avaya will not be proposing Intrusion Detection/Protection and Firewall Appliances.

5.2.6.3 Logging Appliances and Analysis Tools - Solutions utilized to collect, classify, analyze, and securely store log messages.

Avaya Response:

Avaya is proposing the following Logging and Analysis tools

- Identity Engines Ignition Analytics for Network Policy Control
- Virtualization Performance and Fault Manager for network discovery and SNMP management
- IP Flow Manager for IPFIX/Netflow reporting

Identity Engines Ignition Analytics

When deploying Avaya Identity Engines product family, for identity based Network Access Control, the Identity Engines Ignition Analytics tool is offered providing detailed analysis of information captured by Avaya Ignition Server policy engine. Ignition Analytics presents the Ignition Server's network authorization and authentication information in a variety of summary and detail reports in the areas of audit, compliance, security and usage. It delivers extensive automated reporting that allows IT professionals to be more effective in carrying out their mandates for compliance, planning, and security.

Ignition Analytics is a web based application installed on a customer provided Microsoft Windows based platform (Windows XP SP3, Windows 2003 or Windows 2008), either running as a standalone host or Virtual Machine, and accessed via a web browser for management, reporting, and analysis of information. A single license key is required for the application, and is not tied to the size of the Ignition Server.

Key features include:

- Assist in capacity planning: Are we meeting the networking needs/service level of our organization?
- Identify device usage: Who are the top users?
- Create audit trails: Look for trends of usage, users, and devices
- Increase visibility into activity level over time, identifying peak usage and lowest usage
- Extensive reporting options: Over 25 report types are preconfigured for instant use while also providing simple to create custom reports to meet a variety of specific requirements
- Advanced scheduling: Both data retrieval and report generation can be scheduled per specific intervals and/or days
- Automatic delivery: Reports are delivered via email for anywhere, anytime access

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Multiple output formats: Reporting format choices include PDF, HTML, rich text, and Microsoft Excel
- Easy to use: The Ignition Analytics is operated with a simple, intuitive interface.
- Easy to install: Out of the box, the Ignition Analytics connects easily with the Avaya Ignition Server

Ignition Analytics – Automated Reporting and Analysis

The Ignition Analytics is a powerful reporting application. It allows IT professionals to perform in depth analysis of network activity including ingress and usage. Report data comes from the Avaya Identity Engines Ignition Server, responsible for handling authentication and authorization of users and devices across the network.

The Ignition Analytics adds reporting to the Ignition Server by allowing you to set up automated data retrieval and report generation. An extensive feature set, which is easily customized to comply with customer specific policies and requirements, helps equip IT administrators with precise data that can be delivered automatically to different levels in an organization and in the format that's applicable to them.

Creating reports is a simple process. You can either select from over 25 preconfigured audit, compliance, and usage reports, or easily produce a custom report to fulfill your organization's specific reporting requirements.

Ignition Analytics – Capacity Planning

The Ignition Analytics is an indispensable tool for capacity planning because it can be used to monitor changes in the networking environment and thereby make more informed planning decisions. By reading usage reports, network planners can quickly see which users and devices are most active. Reports can be used to create audit trails and identify trends.

Ignition Analytics – Standard Report Types

Audit

- Authentication by user, client, authenticator, date or Ignition Server
- Client by user
- Clients for a selected user
- User by client
- Users for a selected client

Compliance

- Detail
- Summary
- Security
- Failed by user, client, authenticator, date or Ignition Server
- Failed summary

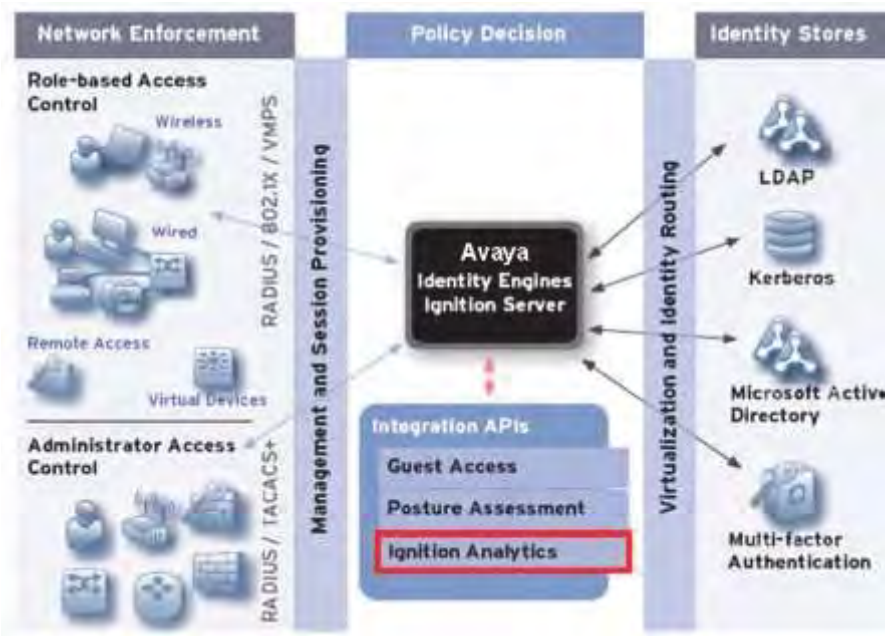
Usage

- Detail by user
- Detail by selected client

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Detail by selected user
- Summary by user, client, authenticator, date or Ignition Server

Figure 5.2.6.3-1 With the Ignition Analytics module installed, network authorization and authentication information from across the network is collected and delivered automatically



Avaya Visualization Performance and Fault Manager

Avaya is proposing Visualization Performance and Fault Manager to address the challenges and the need for convergence. Visualization Performance and Fault Manager is a Unified Communications Management-ready application. It provides advanced network discovery, topology visualization, fault and performance management. Visualization Performance and Fault Manager can be installed on Windows or Linux based OS's. Please see the response to 5.2.2.4 where a full product description has been provided for the Visualization Performance and Fault Manager as well as the key features.

Avaya IP Flow Manager

Avaya IP Flow Manager addresses the need to provide tools that would effectively monitor, analyze, and report application behaviors, and their bandwidth utilization trends. IP Flow Manager is a Unified Communications Management-ready application that is fully web based and uses the standard IP Flow technology with deeper analysis using packet capture, trending, and threshold alert notification capabilities. IP Flow Manager can be installed on Windows or Linux based OS's. Please see the response to 5.2.2.4 where a full product description has been provided for the IP Flow Manager as well as the key features.

5.2.6.4 Secure Edge and Branch Integrated Security Products - Network security, VPN, and intrusion prevention for branches and the network edge. Products typically consist of appliances or routers.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Response:

Avaya Secure Router 2330 and 4134 products, as briefly discussed in answer to section 5.2.5 of the RFP, include security features such as VPN and firewall for increased reliability and user confidence. Capabilities include stateful packet firewall, detection, and prevention of more than 60 Distributed Denial of Service attacks, VPN hardware acceleration for site to site IPsec, and GRE VPN tunnels and/or remote access IPsec VPN tunnels for direct client connectivity.

Supporting VPN tunnels, the Secure Router 2330 provides support for up to 100 tunnels, while the Secure Router 4134 provides support for up to 1,000 tunnels. IPsec VPN data encryption services include AES, 3DES, DES, SHA-1, MD-5, and Difffie-Hellman support.

5.2.6.5 Secure Mobility Products - Delivers secure, scalable access to corporate applications across multiple mobile devices.

Avaya Response:

Avaya Identity Engines Portfolio of products is targeted toward providing secure, scalable access to corporate and non-corporate owned assets across multiple mobile devices. While mobile devices may or may not be within IT's control, the Identity Engines Portfolio can be deployed to restrict access to networking resources/applications based on extremely granular controls. As a vendor agnostic Policy Enforcement Engine, Avaya Identity Engines portfolio integrates with any current network infrastructure to provide the central policy decisions needed to enforce roles-based Network Access Control. This is accomplished by combining the best elements of a next-generation RADIUS/AAA server, the deep directory integration found in application identity offerings, and one of the industry's most advanced standards-based policy engines. All this is done out-of-band for maximum scalability and cost effectiveness.

Identity Engines Components:

- Identity Engines Ignition Server
- Identity Engines Guest Manager
- Identity Engines Access Portal
- Identity Engines Client for Accessing the Secure Enterprise Administration
- Please see the response to 5.2.6.1 where a full product description and key benefits for the Identity Engine Components have been provided.

5.2.6.6 Encryption Appliances - A network security device that applies crypto services at the network transfer layer -above the data link level, but below the application level.

Avaya Response:

Avaya will not be proposing Encryption Appliances.

5.2.6.7 On-premise and Cloud-based services for Web and/or Email Security - Solutions that provide threat protection, data loss prevention, message level encryption, acceptable use and application control capabilities to secure web and email communications.

Avaya Response:

Avaya will not be proposing On-premise and Cloud-based services for Web and/or Email Security.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

5.2.6.8 Secure Access - Products that provide secure access to the network for any device, including personally owned mobile devices (laptops, tablets, and smart phones). Capabilities should include:

- Management visibility for device access
- Self-service on-boarding
- Centralized policy enforcement
- Differentiated access and services
- Device Management

Avaya Response:

Avaya Identity Engines Portfolio of products is targeted toward providing secure, scalable access to corporate and non-corporate owned assets across multiple mobile devices. While mobile devices may or may not be within IT's control, the Identity Engines Portfolio can be deployed to restrict access to networking resources/applications based on extremely granular controls. As a vendor agnostic Policy Enforcement Engine, Avaya Identity Engines portfolio integrates with any current network infrastructure to provide the central policy decisions needed to enforce roles based Network Access Control. This is accomplished by combining the best elements of a next generation RADIUS/AAA server, the deep directory integration found in application identity offerings, and one of the industry's most advanced standards based policy engines. All this is done out of band for maximum scalability and cost effectiveness.

Identity Engines Components:

- Identity Engines Ignition Server
- Identity Engines Guest Manager
- Identity Engines Access Portal
- Identity Engines Client for Accessing the Secure Enterprise Administration

Please see the response to 5.2.6.1 where a full product description and key benefits for the Identity Engine Components have been provided.

5.2.7 STORAGE NETWORKING - High-speed network of shared storage devices connecting different types of storage devices with data servers.

5.2.7.1 Director Class SAN (Storage Area Network) Switches and Modules - A scalable, high-performance, and protocol-independent designed primarily to fulfill the role of core switch in a core-edge Fibre Channel (FC), FCOE or similar SAN topology. A Fibre Channel director is, by current convention, a switch with at least 128 ports. It does not differ from a switch in core FC protocol functionality. Fibre Channel directors provide the most reliable, scalable, high-performance foundation for private cloud storage and highly virtualized environments.

Avaya Response:

Avaya will not be proposing Director Class Storage Area Network Switches and Modules.

5.2.7.2 Fabric and Blade Server Switches - A Fibre Channel switch is a network switch compatible with the Fibre Channel (FC) protocol. It allows the creation of a Fibre Channel fabric, which is currently the core component of most SANs. The fabric is a network of Fibre Channel devices, which allows many-to-many communication, device name lookup, security, and

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

redundancy. FC switches implement zoning; a mechanism that disables unwanted traffic between certain fabric nodes.

Avaya Response:

Avaya will not be proposing Fabric and Blade Server Switches.

5.2.7.3 Enterprise and Data Center SAN and VSAN (Virtual Storage Area Network) Management - Management tools to provisions, monitors, troubleshoot, and administers SANs and VSANs.

Avaya Response:

Avaya will not be proposing Enterprise and Data Center SAN and VSAN Management.

5.2.7.4 SAN Optimization - Tools to help optimize and secure SAN performance (ie. Encryption of data-at-rest, data migration, capacity optimization, data reduction, etc.

Avaya Response:

Avaya will not be proposing SAN Optimization.

5.2.8 SWITCHES - Layer 2/3 devices that are used to connect segments of a LAN (local area network) or multiple LANs and to filter and forward packets among them.

5.2.8.1 Campus LAN – Access Switches - Provides initial connectivity for devices to the network and controls user and workgroup access to internetwork resources. The following are some of the features a campus LAN access switch should support:

- Security
    - i. SSHv2 (Secure Shell Version 2)
    - ii. 802.1X (Port Based Network Access Control)
    - iii. Port Security
    - iv. DHCP (Dynamic Host Configuration Protocol) Snooping
- VLANs
- Fast Ethernet/Gigabit Ethernet
- PoE (Power over Ethernet)
- link aggregation
- 10 Gb support
- Port mirroring
- Span Taps
- Support of IPv6 and IPv4
- Standards-based rapid spanning tree
- Netflow Support (Optional).

Avaya Response:

Avaya has different product offerings for Campus LAN Access Switching solutions meeting deployment specific factors such as size of the deployment, performance requirements, advanced capabilities needed

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

and budget constraints. An access solution for the edge of a large campus environment will undoubtedly have different requirements versus a small site requiring only a handful of connections. Understanding the need to address different deployment scenarios, Avaya is proposing the Ethernet Routing Switch 3000 Family of switches for small office deployments and Ethernet Routing Switch 4000 Family of switches for medium to large office deployments.

While Avaya Ethernet Routing Switch 3000 and Ethernet Routing Switch 4000 Product Families are proposed, the same base level Enterprise class features are common across both product families. Those base level features as it relates to the RFP include the following:

- Secure Management through SSHv2, HTTPS and SNMPv3 along with IP address restrictions and local, RADIUS or TACACS+ authentication
- 802.1X (SHSA, SHMA, MHSA, MHMA) Up to 32 x separate VLAN's dynamically assigned to a given access port based on authentication
- Port Security (Number of MAC's, flexible MAC learning, default VLAN)
- DHCP Snooping and Dynamic ARP Inspection
- Port, Protocol, and MAC based VLAN's along with 802.1X automated VLAN assignment
- Guest VLAN support
- 802.1ab/LLDP standards based support for network discovery and automated configuration (Ethernet Switch/IP handset)
- 10/100 and 10/100/1000 options with or without PoE/PoE+
- Non-blocking architecture supporting full line rate across all ports and all packet sizes
- Link Aggregation of up to 8 x links using standards based LACP or Avaya MLT
- Port Mirroring: One-to-one, one-to-many, flow based and will work with external Span Taps
- IPv4 and IPv6 Support
- Standards based STP, RSTP, and MSTP

Differences in the product families appear as more advanced features are requested or higher speed uplinks are needed. For instance, while Netflow support is listed as optional, it's included in the base software of the Ethernet Routing Switch 4000 family as standards based IPFIX (based on Netflow v9). However IPFIX is not available on the Ethernet Routing Switch 3000. From a hardware standpoint, the Ethernet Routing Switch 4000 Product family has flexible support for 1Gig and 10Gig uplink interfaces, while the Ethernet Routing Switch 3000 has no support for 10Gig.

Avaya Ethernet Routing Switch 3000 and 4000 key product differentiators:

- Avaya Stackable Chassis stacking technology, pioneered in 1998, offering chassis based resiliency and performance aspects in a stackable form factor
- Auto configuration of Ethernet Switch when IP phone connected. When using Avaya phones, LLDP will also auto configure the handset (Miercom certified 1 minute IP handset provisioning) and TLV can be modified to support third party IP handsets using LLDP.
- Simple to configure and manage, Common GUI across all Ethernet switches, scripts that automate deployment including a script that automates switch configuration when deployed as part of an Avaya IP Office system voice deployment, centralized configuration management using Avaya Configuration and Orchestration Manager via wizards and templates as well as bulk management capabilities

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Advanced Quality of Service controls, including traffic shaping and policing, based on Layer 2, Layer 3 or Layer 4 criteria
- Energy Efficiency: Use of highly efficient power supplies supporting green initiatives and lowering overall OPEX along with power saving mode dimming ports during off-peak hours

Small Site Access

The Ethernet Routing Switch 3000 is a series of high performance Ethernet switches for small to medium enterprises, branches, and open environments outside of the wiring closet. Where there is a requirement to power IP phones, wireless access points, networked CCTV cameras and other devices, the switch supports the IEEE 802.3af Power over Ethernet and IEEE 802.3at Power over Ethernet Plus standards.

For environments that want to start small but have the flexibility to pay as they grow, the Ethernet Routing Switch 3500 24-port models are enabled with the Avaya stackable chassis architecture. This architecture provides functionality equivalent to a modular chassis but with small cost effective fixed form factor switches. Similar to adding line cards to a modular chassis, new Ethernet Routing Switch 3500 units can be added individually to form a stack of switches manageable as a single unit. The switch supports 80 gigabits per second of virtual backplane capacity in a stack of eight units.

Avaya stackable chassis architecture can also improve network availability through features such as the ability to hot swap individual units in a stack without impacting traffic, the ability to support link aggregation across the stack: increasing resiliency, and through sub-second recovery in the event of a link or unit failure.

The Ethernet Routing Switch 3500 delivers high performance Layer 2 switching, Layer 3 static routing, advanced convergence features, and a wide range of security features including support for IEEE 802.1X for secure network access control. The switches are designed to simplify operations by automating many of today's manual processes, while keeping costs low for cost conscious small and medium enterprises and for remote office deployments.

There are number of choices available in the Ethernet Routing Switch 3000 series family with the following being proposed as part of this RFP:

- Ethernet Routing Switch 3524GT-PWR+, which provides 24 x 10/100/1000BASE-T IEEE 802.3at PoE+ ports, 4 x shared SFP ports and 2 integrated stacking ports.
- Ethernet Routing Switch 3524GT, which provides 24 x 10/100/1000BASE-T ports, 4 x shared SFP ports and 2 integrated stacking ports.
- Ethernet Routing Switch 3526T-PWR+, which provides 24 x 10/100BASE-T IEEE 802.3at PoE+ ports, 2 x combo 10/100/1000 and SFP ports and 2 integrated stacking ports.
- Ethernet Routing Switch 3526T, which provides 24 x 10/100BASE-T ports, 2 x combo 10/100/1000 and SFP ports and 2 integrated stacking ports.
- Ethernet Routing Switch 3510GT-PWR+ (Not Stackable), which provides 8 x 10/100/1000BASE-T IEEE 802.3at PoE+ ports and 2 SFP ports.
- Ethernet Routing Switch 3510GT, which provides 8 x 10/100/1000BASE-T ports and 2 SFP ports.

Medium/Large Site Access

The Ethernet Routing Switch 4000 Ethernet Switches provide a solution that is resilient, efficient, and scalable. These characteristics form the basis for our unique value proposition for medium to large site deployments. With the Power-over-Ethernet+ models featuring field replaceable power supplies, support for 802.3at (PoE+), and on the Gigabit variants integrated Small Form Factor Pluggable 1 gigabit per second and 10 gigabits per second uplink sockets, empowers more advanced configurations.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Enterprises with requirements for advanced switching at the network edge will benefit from the Ethernet Routing Switch 4000 Series. The switches meet these requirements, providing Layer 2 and Layer 3 features on top of the hardware support for Fast Ethernet, Gigabit Ethernet, PoE or PoE+, with redundant power support.

As newer Ethernet 4000 Series switches are introduced, such as the Ethernet Routing Switch 4800 Series switches released several years ago, switches can stack with older 4000 Series models. All Ethernet Routing Switch 4000 Series models can stack together, providing various design choices and the right mix based on specific requirements. It provides investment protection for organizations that have already purchased the Ethernet Routing Switch 4500 switches. For deployments not requiring the additional features the newer models offer, it also can reduce initial investment without sacrificing future expandability.

With the addition of the Ethernet Routing Switch 4800 Series products, Enterprises are poised to extend Next Generation Ethernet fabric technology to the edge of the network providing end to end network virtualization. Unlike proprietary fabric technologies targeted solely at the data center, the Ethernet Routing Switch 4800 series support of standards based IEEE/IETF Shortest Path Bridging provides unmatched functionality in extending Network Virtualization to the Campus Edge.

There are number of choices available in the Ethernet Routing Switch 4000 series family with the following being proposed as part of this RFP:

- Ethernet Routing Switch 4850GTS-PWR+, which provides 48 x 10/100/1000BASE-T IEEE 802.3at PoE+ ports, 2 x SFP ports plus 2 x SFP+ ports, 2 integrated stacking ports, and power supply slots for up to 2 removable power supplies.
- Ethernet Routing Switch 4826GTS-PWR+, which provides 24 x 10/100/1000BASE-T IEEE 802.3at PoE+ ports, 2 x SFP ports plus 2 x SFP+ ports, 2 integrated stacking ports, and power supply slots for up to 2 removable power supplies.
- Ethernet Routing Switch 4850GTS, which provides 48 x 10/100/1000BASE-T ports, 2 x SFP ports plus 2 x SFP+ ports, 2 integrated stacking ports, and power supply slots for up to 2 removable power supplies.
- Ethernet Routing Switch 4826GTS, which provides 24 x 10/100/1000BASE-T ports, 2 x SFP ports plus 2 x SFP+ ports, 2 integrated stacking ports, and power supply slots for up to 2 removable power supplies.
- Ethernet Routing Switch 4550T-PWR+, which provides 48 x 10/100Base-T IEEE 802.3at PoE+ ports, 2 x combo 10/100/1000TX/SFP ports, 2 integrated stacking ports, and power supply slots for up to 2 removable power supplies.
- Ethernet Routing Switch 4526T-PWR+, which provides 24 x 10/100Base-T IEEE 802.3at PoE+ ports, 2 x combo 10/100/1000TX/SFP ports, 2 integrated stacking ports, and power supply slots for up to 2 removable power supplies.
- Ethernet Routing Switch 4550T-PWR, which provides 48 x 10/100Base-T IEEE 802.3af PoE ports, 2 x combo 10/100/1000TX/SFP ports, 2 integrated stacking ports, and RPS slot for use with optional External Redundant Power Supply shelf.
- Ethernet Routing Switch 4526T-PWR, which provides 24 x 10/100Base-T IEEE 802.3af PoE ports, 2 x combo 10/100/1000TX/SFP ports, 2 integrated stacking ports, and RPS slot for use with optional External Redundant Power Supply shelf.
- Ethernet Routing Switch 4550T, which provides 48 x 10/100Base-T ports, 2 x combo 10/100/1000TX/SFP ports, 2 integrated stacking ports, and RPS slot for use with optional External Redundant Power Supply shelf.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Ethernet Routing Switch 4526T, which provides 24 x 10/100Base-T ports, 2 x combo 10/100/1000TX/SFP ports, 2 integrated stacking ports, and RPS slot for use with optional External Redundant Power Supply shelf.
- Ethernet Routing Switch 4526FX, which provides 24 x 100Base-FX ports, 2 x combo 10/100/1000TX/SFP ports, 2 integrated stacking ports, and RPS slot for use with optional External Redundant Power Supply shelf.

5.2.8.2 Campus LAN – Core Switches - Campus core switches are generally used for the campus backbone and are responsible for transporting large amounts of traffic both reliably and quickly. Core switches should provide:

- High bandwidth
- Low latency
- Hot swappable power supplies and fans
- Security
    i. SSHv2
    ii. MacSec encryption
    iii. Role-Based Access Control Lists (ACL)
- Support of IPv6 and IPv4
- 1/10/40/100 Gbps support
- IGP (Interior Gateway Protocol) routing
- EGP (Exterior Gateway Protocol) routing
- VPLS (Virtual Private LAN Service) Support
- VRRP (Virtual Router Redundancy Protocol) Support
- Netflow Support.

Avaya Response:

Avaya has different product offerings for Campus LAN Core Switching solutions meeting deployment specific factors such as size of the deployment, performance requirements, advanced capabilities needed and budget constraints. A core solution for a small site will obviously have different hardware requirements than that of a larger location, even though base level software, resiliency and feature capability are expected. Understanding the need to address different deployment scenarios, Avaya is proposing solutions with deployment flexibility in mind.

Proposed products include Ethernet Routing Switch 5000 and Virtual Services Platform 7000 for small core deployments, and chassis based Ethernet Routing Switch 8000 and Virtual Services Platform 9000 for larger core deployments.

While Avaya Ethernet Routing Switch 5000 and 8000 and Virtual Services Platform 7000 and 9000 Product Families are proposed, the same base level Enterprise class features are common across all product families. Those base level features as it relates to the RFP include the following:

- Secure Management through SSHv2, HTTPS and SNMPv3 along with IP address restrictions and local, RADIUS or TACACS+ authentication
- Role Based Access Control provided when directly accessing chassis offerings: Ethernet Routing Switch 8000 and Virtual Services Platform 9000. Additionally, Role Based Access Control is

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

offered to all proposed products when centrally managed using Avaya Configuration and Orchestration Manager

- IPv4 and IPv6 Support
- Support for 1/10Gig (future 40/100Gig options planned for Virtual Services Platform 7000 and 9000)
- IGP Routing
- VPLS functionality provided through IEEE/IETF Shortest Path Bridging (excluding Ethernet Routing Switch 5000: future support planned in the Ethernet Routing Switch 5000 family)
- VRRP
- Switch Clustering providing Active/Active core switch deployments along with VRRP enhancements providing Master and Backup Master functionality (Switch Clustering and Network Virtualization)
- Netflow support through standards based IPFIX (based on Netflow v9)
- High speed switching capacity and extremely low and predictable latency
- Hot swappable power supplies, line cards and fabrics on all proposed products, including fan trays on chassis products

In addition to base level functionality, the Avaya chassis based Ethernet Routing Switch 8000 and Virtual Service Platform 9000 offerings provide router virtualization, EGP routing and MPLS support.

Small Campus Core – Gig Centric with 10Gig Capability

The Ethernet Routing Switch 5000 is a family of Enterprise class 10/100/1000 Ethernet switches with 10Gig uplink/aggregation capabilities addressing small core applications. The Ethernet Routing Switch 5000 family is based on Avaya Stackable Chassis technology, not only providing chassis based resiliency and management features in a stackable offering, but also investment protection. While the Avaya responses includes Ethernet Routing Switch 5600 series products, important to highlight legacy Ethernet Routing Switch 5500 (not proposed in this RFP response) support and ability to integrate with Ethernet Routing Switch 5600's as a single stackable chassis. Highlighting this capability where existing Ethernet Routing Switch 5500's may already be deployed, as well as offering a proof point of the Avaya evolutionary approach to network designs versus the defacto standard rip and replace mindsets we've been accustomed to regarding non-chassis designs.

The Ethernet Routing Switch 5600 models extend the Ethernet Routing Switch 5000 product family with higher port densities and processing speed (up to 384 x Gig ports plus 16 x 10Gig ports). All five models in the family feature 10GBASE-X XFP connectivity along with field replaceable AC or DC power supplies. In addition to supporting Layer 2 and Layer 3 features common to the Ethernet Routing Switch 5500, the Ethernet Routing Switch 5600, having more advanced switching ASICs also supports additional capabilities such as VRF-Lite, IPv6 Routing, and Content Based Forward to Next Hop functionality.

Ethernet Routing Switch 5600 switches provide Stackable Chassis stacking bandwidth of up to 1.152Tbps (144Gbps between units) in a stack of eight supporting up to 400 x ports. As mentioned, Avaya Stackable Chassis technology offers the same features found in a chassis offering, yet in a stackable form factor providing flexible deployment options. Units can be hot swapped within the stack where code and configuration is automatically applied to the replacement unit. In addition, units can be hot-added without disrupting the stack.

When using Avaya Stackable Chassis technology, there is none of the unwieldy logical ring or token technology that lesser offerings use, but a star based distributed forwarding topology that allows traffic to flow either upstream or downstream simultaneously from every switch in the system, optimizing performance, resiliency, and resource utilization while significantly reducing latency.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Delivering Active/Active core switching capabilities, the Avaya Switch Clustering feature is built using the Split Multi-Link Trunking technology that is unique to Avaya products, yet is interoperable with third party switches, servers, appliances, and routers. This delivers benefits that provide real value; while it may be possible to simulate certain individual elements, there is no competitive offering that can rival the combined capabilities, particularly in terms of simplicity and efficiency across a diverse range of product offerings.

Five models are available in the Ethernet Routing Switch 5600 series of switches and are being proposed as part of this RFP:

- Ethernet Routing Switch 5632FD, which provides 24 x SFP ports, 8 x XFP ports, 2 integrated stacking ports, and power supply slots for up to 2 removable power supplies.
- Ethernet Routing Switch 5698TFD-PWR, which provides 96 x 10/100/1000BASE-T IEEE 802.3af PoE ports, 6 x shared SFP ports, 2 x XFP ports, 2 integrated stacking ports, and power supply slots for up to 3 removable power supplies.
- Ethernet Routing Switch 5698TFD, which provides 96 x 10/100/1000BASE-T ports, 6 x shared SFP ports, 2 x XFP ports, 2 integrated stacking ports, and power supply slots for up to 3 removable power supplies.
- Ethernet Routing Switch 5650TD-PWR, which provides 48 x 10/100/1000BASE-T IEEE 802.3af PoE ports, 2 x XFP ports, 2 integrated stacking ports, and power supply slots for up to 2 removable power supplies.
- Ethernet Routing Switch 5650TD, which provides 48 x 10/100/1000BASE-T ports, 2 x XFP ports, 2 integrated stacking ports, and power supply slots for up to 2 removable power supplies.

Small Campus Core – 10Gig Centric with Gig Capability and Future 40/100Gig Support

The Virtual Services Platform 7000 Ethernet Switches are ideally suited to deliver flexible, high-speed Ethernet connectivity in the data center as a small core solution. Where a core solution may already exist, the Virtual Services Platform can augment the solution providing 10 Gigabit Ethernet fan out capability saving valuable ports and slots. Featuring a hardened physical architecture of dual, hot swappable AC or DC power supplies and redundant fan trays (with front-to-back or back-to-front cooling options), and hot swappable units within a stack, the switch is an important addition to a network manager's toolkit for creating always on high performance solutions.

The first of the Virtual Services Platform 7000 models to be introduced, the 7024XLS proposed in our response, features fixed SFP+ sockets that support a wide variety of both 1 and 10 gigabits per second Ethernet pluggable transceivers, enabling short and long haul copper and fiber connections. In addition the Virtual Services Platform 7024XLS also features a versatile Media Dependent Adaptor slot that delivers support for a range of high speed expansion options, such as additional 1/10Gig ports (SFP+ sockets or 10GBASE-T via RJ45).

In addition to the versatility afforded by the optional MDA, the switch includes a host of strategic innovations that help enable it to continue to deliver performance and services throughout an extended life cycle. Among the future-ready features is the advanced fifth generation ASIC chipset that has been optimized for network operations, including:

- Smart packet buffering to deliver lower latencies and efficiently reallocate memory to those ports suffering congestion
- Larger table capacities provide for improved scaling
- Embedded services in support of applications such as IPFIX
- Native support for the particular computational functionality crucial in high-performance data center and metro deployment scenarios

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Along with individual switching performance of over 1.2 Terabits per second, the switch is equipped with superior CPU and memory resources so that it has the capabilities to execute the algorithms necessary for a successful fabric-based infrastructure. When stacking units together utilizing Avaya Stackable Chassis feature, common across our fixed format switching products, stacking throughput of 5.1Tbps is achieved (640Gpbs switch to switch) in a stack of 8 x switches. This capability creates a virtual backplane optimizing local traffic flows by always forwarding packets along the shortest path between source and destination, using dedicated high speed interconnections.

Large Campus Core – Gig Centric with 10Gig Capability

The Avaya Ethernet Routing Switch 8000 is a chassis based offering targeted at addressing large core Ethernet switching needs within an Enterprise. Providing 720Gbps switching performance, the Ethernet Routing Switch 8800 is available in multiple chassis options: 10 slot featuring eight slots for interface modules; 6 slot featuring four slots for interface modules; 3 slot featuring two slots for interface modules. In addition, there is also the Ethernet Routing Switch 8010CO central office 10 slot chassis, which is NEBS compliant for deployment scenarios that require a carrier class platform.

The Ethernet Routing Switch 8895SF switch fabric and CPU module is the latest version and offers significant enhancements in terms of CPU performance and memory capacity; it is also 50% more energy efficient. These advances allow the Ethernet Routing Switch 8895SF to natively support both existing and emerging services and applications that place intense demands on the networking infrastructure.

A range of high performance IO module options exist for the Ethernet Routing Switch 8000. These include a high density 10 Gigabit Ethernet module (12 ports per module and up to 96 ports per chassis), high density 48 port modules supporting 10/100/1000 copper or 1000BASE-X SFP connectivity (up to 384 ports per chassis) and an innovative hybrid combination module that concurrently supports 10 Gigabit Ethernet (x2), 1000BASE-X (x24), and 10/100/1000BASE-T (x8) ports. This combo module provides additional flexibility for smaller aggregation sites.

The latest generation interface modules feature Avaya Route Switch Processor network processing units enabling the switch to deliver new features through firmware updates as opposed to module replacement. Network Processing Units are large scale CPU arrays specifically designed for network related functions such as efficient examination and manipulation of packet headers.

Avaya specialized high performance Network Processing Unit, the Route Switch Processor, is an in house development delivering fast path protection through its ability to support in life firmware upgrades while providing line rate switching and routing regardless of standards evolution. Avaya has been able to leverage this re-programmable capability to deliver new innovative features, such as IPv6, a flexible IP VPN suite, and the new Fabric Connect capabilities (IEEE/IETF Shortest Path Bridging), while maintaining hardware based performance levels. Equipment based on a traditional ASIC architecture is limited in that the functionality of the ASIC chipsets is set at a certain point in time and cannot easily adapt to future change. Typically this means that newer features and functionality are not supported only in hardware but require additional software processing that can adversely affect performance and increase latency until the next hardware refresh.

Having pioneered Switch Clustering capabilities more than a decade ago on the Ethernet Routing Switch 8000 platform, providing Active/Active core switching, Avaya Switch Clustering offers the ability for 2 x physically separate core switches to function as a single logical switch from a Link Aggregation standpoint. This allows for devices supporting LAG capabilities (third party switches, servers, and appliances) the ability to load balance across all available links, providing 70 millisecond failover in the event of failure, and removes the reliance on Spanning Tree based protocols for path selection. The combination of processing power, utilizing Active/Active core switches, also increases the overall processing power to over a Terabit worth of forwarding performance in the core.

Please see the response to 5.2.5.3 where a full product description for the Ethernet Routing Switch 8000 has been provided as well as key benefits.

Large Campus Core – 10Gig Centric with Gig Capability and Future 40/100Gig Support

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

The Avaya Virtual Services Platform 9000 is a next generation Ethernet Switching solution that delivers high performance, high capacity, and high availability for mission critical data centers and very large Campus Core networks. The Virtual Services Platform 9000 is built upon proven Ethernet Routing Switch 8000 software, incorporates a fully programmable network processor unit that combines both high performance traffic forwarding and the flexibility to seamlessly evolve in line with new technologies and standards, and features Avaya carrier grade operating system. The Virtual Services Platform 9000 is designed to deliver a future ready, ultra-reliable network that provides high 10 Gigabit Ethernet density plus a seamless path to future 40/100G Ethernet, and simplified and agile virtual network infrastructures.

The Virtual Services Platform 9000 is currently offered in a twelve slot switch, providing 8.4Tbps switching performance (expandable to 27Tbps), and can scale to support up to 240 ports of 10 Gigabit Ethernet (or 480 ports of Gigabit Ethernet) in a highly resilient configuration. Ten of the slots are available for interface modules, 10G, 1G, 10/100/1000. The remaining two slots are reserved for Control Processor modules, and up to six Switch Fabric modules can be installed into the rear of the chassis. While not proposed, a ten slot variant will be released in the coming months offering eight line card slots with the same Control Processor and Switch Fabric module densities. Other form factors are being discussed. In addition, while also not included in the RFP, additional cards supporting greater densities and speed choices are planned.

As a next generation platform, the Virtual Services Platform 9000 also supports the Avaya innovative suite of virtualization solutions, including Avaya Fabric Connect network virtualization offering. Leveraging experience from always on networking capabilities added over more than a decade, the Virtual Services Platform 9000 supports Avaya Switch Clustering feature providing unmatched 20 millisecond fail over times. With the addition of a carrier grade operating system, sets new standards for robustness with advanced diagnostic and self healing capabilities. Please see the response to 5.2.5.3 where a full product description for the Virtual Services Platform 9000 has been provided as well as key benefits.

5.2.8.3 Campus Distribution Switches - Collect the data from all the access layer switches and forward it to the core layer switches. Traffic that is generated at Layer 2 on a switched network needs to be managed, or segmented into Virtual Local Area Networks (VLANs), Distribution layer switches provides the inter-VLAN routing functions so that one VLAN can communicate with another on the network. Distribution layer switches provides advanced security policies that can be applied to network traffic using Access Control Lists (ACLs).

- High bandwidth
- Low latency
- Hot swappable power supplies and fans
- Security (SSHv2 and/or 802.1X)
- Support of IPv6 and IPv4
- Jumbo Frames Support
- Dynamic Trunking Protocol (DTP)
- Per-VLAN Rapid Spanning Tree (PVRST+)
- Switch-port auto recovery
- NetFlow Support or equivalent

Avaya Response:

We understand that the requirement of a Distribution Layer may be due to physical constraints, performance limits of Core/Edge equipment or both. The Avaya design approach is a two-tier model comprising Core and Edge, only adding a Distribution Layer where physical constraints exist. It's

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

important to make this distinction as we continue to see three-tier models deployed where no physical constraints exist, rather deployed to overcome network equipment limitations. The performance and features found in Avaya Stackable Chassis products are instrumental in providing the ability to offer simplified two-tier designs, while reducing equipment costs and overall network complexity.

Avaya has different product offerings for Campus Distribution Switching solutions meeting deployment specific factors, such as size of the deployment, performance requirements, advanced capabilities needed and budget constraints. Understanding the need to address different deployment scenarios, Avaya is proposing solutions with deployment flexibility in mind. Proposed products include Stackable Chassis based Ethernet Routing Switch 5000 and Virtual Services Platform 7000 for small Distribution Layer deployments, and chassis based Ethernet Routing Switch 8000 for larger Distribution Layer deployments.

While Avaya Ethernet Routing Switch 5000 and Ethernet Routing Switch 8000 and Virtual Services Platform 7000 Product Families are proposed, the same base level Enterprise class features and resiliency are common across all product families. Those base level features as it relates to the RFP have been included in the response to 5.2.8.1.

The Ethernet Routing Switch 8000 and Virtual Services Platform 7000 additionally provide the ability to extend Avaya Fabric Connect network virtualization capabilities beyond the Data Center, to the Distribution Layer, greatly reducing provisioning time and easing overall network management.

Please see the response to 5.2.8.2 where a full product description for the Ethernet Routing Switch 8000 and the Virtual Services Platform 7000 have been provided.

5.2.8.4 Data Center Switches - Data center switches, or Layer 2/3 switches, switch all packets in the data center by switching or routing good ones to their final destinations, and discard unwanted traffic using Access Control Lists (ACLs), all at Gigabit and 10 Gigabit speeds. High availability and modularity differentiates a typical Layer 2/3 switch from a data center switch. Capabilities should include:

- High bandwidth
- Low latency
- Hot swappable power supplies and fans
- Ultra-low latency through wire-speed ports with nanosecond port-to-port latency and hardware-based Inter-Switch Link (ISL) trunking
- Load Balancing across Trunk group able to use packet based load balancing scheme
- Bridging of Fibre Channel SANs and Ethernet fabrics
- Jumbo Frame Support
- Plug and Play Fabric formation that allows a new switch that joins the fabric to automatically become a member
- Ability to remotely disable and enable individual ports
- Support NetFlow or equivalent

Avaya Response:

Avaya offers a unique family of Data Center Switching solutions meeting the demanding requirements of a Data Center while leveraging new Ethernet standards for virtualization. The Avaya innovative architecture reduces the amount of hops required for typical East-West Data Center traffic flows, while leveraging the new IEEE/IETF Shortest Path Bridging Ethernet standard for network virtualization through Avaya Fabric Connect technology.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Proposed products include Virtual Services Platform 7000 for, Top of Rack and Rack to Rack deployments and chassis based Ethernet Routing Switch 8000 and Virtual Services Platform 9000 for core data center aggregation, advanced Layer 3 and MAN/WAN routing capabilities

While Avaya Ethernet Routing Switch 8000 and Virtual Services Platform 7000 and Virtual Services Platform 9000 Product families are proposed, the same base level Enterprise class features are common across all product families. The base level features as it relates to the RFP have been included in the response to 5.2.8.2.

Data Center Top of Rack – 10Gig Centric with Gig Capability and Future 40/100Gig Support

The Avaya Virtual Services Platform 7000 is a Stackable Chassis offering utilizing its Fabric Interconnect as a connectivity building block in Avaya Fabric Connect architecture. It is the practice of using the Virtual Services Platform 7000 rear panel ports to interconnect switches while preserving front panel ports. Fabric Interconnect provides two options to deliver scalability and low latency interconnects addressing east-west traffic requirements: Fabric Interconnect Stacking and Fabric Interconnect Mesh.

Fabric Interconnect Stacking uses Fabric Interconnect ports to horizontally connect up to eight switches to form a distributed Top of Rack design, allowing up to 256 x 1/10 Gigabit Ethernet ports with 5 Terabits per second Fabric. Fabric Interconnect Stacking also provides extremely low latency of 2.1uS to 5.3uS (four hop maximum in stack of eight). Providing high availability, two Top of Rack systems can be connected together using Split Multi-Link Trunking, yielding 10 Terabits per second Fabric while supporting 512 x 1/10 Gigabit Ethernet ports. This flexibility provides the ability to dual home servers and storage across separate stacks providing in service software upgrades and increased throughput.

Fabric Interconnect Mesh uses Fabric Interconnect ports to connect 4 to 200 switches in a mesh, expanding to 480 switches in an upcoming software release, ultimately offering up to 15,360 10 Gigabit Ethernet ports within a 262.5 Terabits per second Fabric.

Understanding that east-west traffic is dominating data center traffic, where a single web click can spawn access to multiple different servers, most traffic goes rack to rack directly between servers. Cross rack capacity and low latency is obviously crucial. The Virtual Services Platform 7000s Terabit-class interconnect avoids congestion and added latency other solutions suffer by having to traverse a separate Core switch or Distribution switch in a three tier model. Alternative solutions introduce congestion and latency, additional equipment and hops, and consume more ports when processing traffic between racks.

Modes of operation

The Virtual Services Platform 7000 features four Fabric Interconnect ports. It operates in two mutually exclusive modes of operation: 1) Fabric Interconnect Stacking and 2) Fabric Interconnect Mesh. When operating in Fabric Interconnect Stacking, up to eight units create a Top of Rack system or 16 units, by clustering two Top of Rack systems, delivering up to 10 Terabits per second using two clusters of eight switches.

When operating in Fabric Interconnect Mesh, the Fabric Interconnect ports operate as multiple high speed interconnects, allowing the creation of a flexible and scalable network mesh.

Fabric Interconnect Stacking

With Fabric Interconnect Stacking, up to eight units create a Top of Rack delivering up to five Terabits per second using two Fabric Interconnect cables in parallel between each switch. For Fabric Interconnect Stack operation, the stack operates in the same manner as other Avaya stackable products and features many of the associated benefits of Stacking including:

- Single IP address management for Fabric Interconnect Stack
- Hot swap unit replacement
- Distributed uplinks with Distributed Multi-Link Trunking and LAGs

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Fabric Interconnect Mesh

Fabric Interconnect Mesh delivers scalability to address low latency east-west requirements in the data center. As noted in the appropriate section of the RFP response, switches in the Mesh are managed through Configuration and Orchestration Manager and Virtualization Provision Service providing unified provisioning.

Fabric Interconnect ports interconnect each Virtual Services Platform 7000, which can use a mix of different Fabric Interconnect cable lengths. Different Fabric Interconnect cable lengths allow for flexible network deployment when going rack to rack or row to row within the data center.

This solution provides a new mode of switch operation, which allows an alternative means for switches to be interconnected using the rear Fabric Interconnect ports. To support Fabric Interconnect Mesh, each switch operates as an individual switch and the Fabric Interconnect ports are placed into rear ports mode.

When the Virtual Services Platform 7000 is operating in rear ports mode up to 640 Gigabits per second of connectivity is available over these rear ports for creating switch to switch interconnects. Once enabled, LACP is automatically turned on, thus allowing automation of virtual ports between switches. This enables Fabric Interconnect Mesh to provide plug and play connectivity of Virtual Services Platform 7000 units throughout the Data Center.

5.2.8.5 Software Defined Networks (SDN) -Virtualized Switches and Routers - Technology utilized to support software manipulation of hardware for specific use cases.

Avaya Response:

The Avaya solution to address the emerging Software-Defined Networking space is based on the following:

1. Deploy Fabric Connect (an enhanced implementation of Shortest Path Bridging) to link virtual/physical infrastructure and enable flexible network services at any scale through proposed Ethernet Switching product families
2. Leverage OpenStack to enable rapid service creation via a common orchestration interface (available feature 2nd half of 2014)
3. Provide public access (APIs) into an orchestration interface allowing customized interaction with Fabric Connect (available feature 2nd half of 2014)
4. Extend orchestration and Fabric Connect to deliver end-to-end service creation and delivery (from data center to desktop) while incorporating additional tools that automate service creation and delivery through interaction with the application layer

Details on this strategy are as follow:

1) Virtualize the network through Avaya Fabric Connect.

Avaya offers support of their Fabric Connect technology based on the IETF/ IEEE standard Shortest Path Bridging. This technology provides a service abstraction layer which allows for any logical topology to be build (Level 2 and Level 3, combination of both) with greater speed and agility anywhere there is physical Ethernet connectivity. We believe that Fabric Connect can both optimize the infrastructure and simplify operations. Therefore, enabling Enterprise IT departments to focus on skill sets that contribute to the bottom line of the business rather than spending times programming and customizing the infrastructure. The following Fabric Connect enabled products proposed in this RFP response include: Ethernet Routing Switch 4000 and 8000, Virtual Services Platform 4000, 7000, and 9000.

Unique characteristics of this technology:

- Goes beyond being a simple Spanning Tree replacement to delivering the full breadth of services today including Level 2 virtualized services, Level 3 Virtualized services (with

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

multiple Virtual Routing and Forwarding instances) and fully optimized routing and multicast services.

- Unshackles Virtual Machines from the network to enable VM mobility across Layer 3 domains and across geographically dispersed Data Centers without requiring additional network overlay or protocol overlay technologies.
- Offers a single technology that can extend beyond a single data center without requiring additional overlay technologies or complex protocol stitching, enabling multiple geographically dispersed locations/data centers to appear as a single resource pool for the applications.
- Enables scaling well beyond the 4,000 VLANs of traditional Ethernet and competitive fabric solutions enabling 16 million unique services.
- Offers sub-second recoveries for all services (including multicast) by eliminating protocol overlays and creating a load balanced network where all links are utilized.
- Offers an efficient transport layer for technologies such as VXLAN which rely on routing / multicast technologies.

2) OpenStack for automation/orchestration.

- OpenStack is an open source cloud operating system created by NASA and Rack space that simplifies creation and movement of applications and virtual machines in a public or private cloud.
- OpenStack provides a control layer that sits above all the virtualized components in the Data Center and orchestrates those resources as a service through a set of APIs and a common dashboard.
- Within OpenStack there are several modules that manage each resource individually. The OpenStack 'Nova' interface orchestrates virtual machine resources, the Cinder and Swift interfaces orchestrate block and object storage respectively and Neutron interconnects everything by coordinating networking services and appliances. Typically this is brought together under the umbrella of OpenStacks Horizon graphical orchestration interface.
- Avaya is integrating Fabric Connect technology into OpenStacks Neutron project and leveraging OpenStacks Horizon based multi resource management platform, delivering coordinated orchestration for computer (Nova), storage (Cinder/Swift), in addition to network (Neutron). The value proposition is the ability to create and deploy services in four to five simple steps through a single intuitive graphical interface.

3) Public Access (APIs) allowing for customized interaction with Avaya Fabric Connect

As the dust has yet to settle with regards to SDN and there are still many directions that it can go in, Avaya is developing public access APIs directly into its Fabric Connect technology to allow for customized interaction directly with the networking layer. This provides an open foundation for our customers to adapt the network into any emerging SDN architectures in the future.

4) Extend orchestration and Fabric Connect to deliver end-to-end service creation and delivery (from data center to desktop)

Avaya is extending its orchestration and virtualization technology to the network edge to extend the service chain from the application to the user, data center to desktop. This allows for new levels of network simplicity as services would be set up through end point, automated provisioning where the applications and users of that application connect to the network. Avaya is also developing a policy controller that is able to detect users and detect applications and then coordinate with the orchestration system to allocate the necessary resources to support that application. This brings the vision from

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

software defined to application driven. The policy controller plays a critical role in this solution ensuring that automation is contained according to both corporate and regulatory guidelines.

To summarize, the benefit of the Avaya strategy is to bring increased simplicity and agility to the network and to enable the rapid creation of cloud based services in four to five simple steps. It also provides a foundation to facilitate the transition from private to hybrid cloud models in the future.

While other SDN vendors are focusing on automation, they are ignoring the limitations of existing networking technologies and delivering solutions which are tied to complex protocols such as MPLS. Avaya is delivering a solution that eliminates network complexity and provides a much simpler and agile foundation for the Software Defined Network. Rather than adding network overlays or additional protocols, and creating even more complexity than what we have today, Avaya Fabric Connect streamlines the network offering a single technology for Level 2 and Level3 services, Routing and IP Multicast that extends beyond a single data center and enables massive service scalability. For automation and orchestration, we are working with OpenStack as well as providing APIs directly into our Fabric Connect technology for federation and customization.

5.2.8.6 Software Defined Networks (SDN) - Controllers -is an application in software-defined networking (SDN) that manages flow control to enable intelligent networking. SDN controllers are based on protocols, such as OpenFlow, that allow servers to tell switches where to send packets. The SDN controller lies between network devices at one end and applications at the other end. Any communications between applications and devices have to go through the controller. The controller uses multiple routing protocols including OpenFlow to configure network devices and choose the optimal network path for application traffic.

Avaya Response:

For network virtualization, Avaya offers its Fabric Connect technology. This technology delivers an open foundation for the network (based on IETF and IEEE standards). It also offers a simplified way to optimize network traffic. In a Fabric Connect network, traffic automatically takes the Shortest Path from source to destination through very sophisticated algorithms. Connections are dynamically established through the provisioning of end points, and the optimal network path is automatically established.

To automate the configuration of network devices Avaya offers a range of controller based solutions:

Software Defined Data Center Controller for VMware vCenter networks (Avaya Virtualization Provisioning Service proposed).

- Automatically synchronizes the network to react to changes that occur in the computer environment, increasing IT efficiency and reducing time to service.
- Provides an end to end view of the data center including virtual machines, servers, and network devices across physical and virtual environments.
- Provisions network devices to follow VMs as they migrate between servers.
- Applies connectivity services and port profiles based on predefined templates and rules, automatically, or on demand through guided work flows.

Software Defined Data Center Controller for OpenStack networks (demo capability today, available in 2nd half of 2014).

- Enables the coordinated orchestration of all data center resource plus builds the end to end service chain (firewalls, security services) through a single interface.
- SDDC Controller interacts with Avaya Fabric Connect to resource pools and to efficiently build the end to end virtualized service.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Enables a consistent operational process when multiple hypervisor and storage technologies exist in the data center.

SDN Policy Controller (Based on Avaya Identity Engines Ignition Server proposed with extensions available late 2014/early 2015).

- Recognizes, polices and monitors applications, endpoints and users to create graduated levels of experience.
- Provides automation so it is constrained to corporate policies and regulatory compliances.
- Interacts with orchestration layer to enable the dynamic assignment of application centric virtualized network (builds the service chain from application to user).

Public APIs for Avaya SDDC/ SDN controllers.

- Enables customization of the networking layer through Avaya controller based solutions.
- Enables the components within the application stack to communicate directly with one another.
- Provides an open foundation to fit into additional SDN architectures.

5.2.8.7 Carrier Aggregation Switches - Carrier aggregation switches route traffic in addition to bridging (transmitted) Layer 2/Ethernet traffic. Carrier aggregation switches' major characteristics are:

- Designed for Metro Ethernet networks
- Designed for video and other high bandwidth applications
- Supports a variety of interface types, especially those commonly used by Service Providers Capabilities should include:
- Redundant Processors
- Redundant Power
- IPv4 and IPv6 unicast and multicast
- High bandwidth
- Low latency
- Hot swappable power supplies and fans
- MPLS (Multiprotocol Label Switching)
- BGP (Border Gateway Protocol)
- Software router virtualization and/or multiple routing tables
- Policy based routing
- Layer 2 functionality
    i. Per VLAN Spanning Tree
    ii. Rapid Spanning Tree
    iii. VLAN IDs up to 4096
    - Layer 2 Class of Service (IEEE 802.1p)
    - Link Aggregation Control Protocol (LACP)

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

vi. QinQ (IEEE 802.1ad)

Avaya Response:

Avaya is creating an Enterprise wide model for resilient access to applications and services with light touch provisioning, ultimately reducing OPEX, simplifying the management of the infrastructure and reducing risk associated with making changes to the network. This being accomplished using standards based, next generation Ethernet technology, such as Avaya Fabric Connect technology based on IEEE/IETF's Shortest Path Bridging.

Unlike traditional MPLS, targeted squarely at the WAN edge, Shortest Path Bridging provides the same virtualization capability yet extended Enterprise wide and without the complexity and number of state machines MPLS requires. In addition, while no standard solution exists for supporting Multicast across MPLS networks (critical in supporting video applications at a minimum), Multicast support was purposely designed into the Shortest Path Bridging protocol. The same IEEE/IETF inventors of Ethernet, MPLS and BGP also wrote the Shortest Path Bridging standard and see that Multicast support was designed into the protocol as Shortest Path Bridging was initially being developed.

While proprietary network fabric technologies are limited to deployment within a data center and only focus on Layer 2 virtualization, they also rely on MPLS or proprietary WAN technologies to traverse geographic locations. In contrast, as an end to end solution, Shortest Path Bridging domains can be extended across existing Layer 2 MPLS connections or be used as a replacement to MPLS where dark fiber or wavelength services exist. In addition, Avaya Fabric Connect provides the ability to virtualize Layer 2, Layer 3, the existing Global Routing Table (replacing the existing IGP) as well as Multicast traffic.

Proposed products include Ethernet Routing Switch 8000 and Virtual Services Platform 9000 switches designed for high density carrier deployments where carrier class features are required and carrier hand off is Ethernet based. While Avaya Ethernet Routing Switch 8000 and Virtual Services Platform 9000 Product families are proposed, the same base level carrier class features are common across both product families. Those base level features as it relates to the RFP have been included in the response to 5.2.5.3.

Carrier Aggregation Core – Gig Centric with 10Gig Capability

The Avaya Ethernet Routing Switch 8000 is a chassis based offering targeted at addressing Carrier Ethernet Aggregation needs. Providing 720Gbps switching performance, the Ethernet Routing Switch 8800 is available in multiple chassis options:

- 10 slot featuring eight slots for interface modules
- 6 slot featuring four slots for interface modules
- 3 slot featuring two slots for interface modules.

In addition, there is also the 8010CO Central Office 10 slot chassis, which is NEBS-compliant for deployment scenarios that require a carrier class platform.

The Ethernet Routing Switch 8895SF switch fabric and CPU module is the latest version and offers significant enhancements in terms of CPU performance and memory capacity; it is also 50% more energy efficient. These advances allow the Ethernet Routing Switch 8895SF to natively support both existing and emerging services and applications that place intense demands on the networking infrastructure. The Ethernet Routing Switch 8895SF also provides switch fabric and CPU redundancy when deployed as a pair.

A range of high performance IO module options exist for the Ethernet Routing Switch 8000. These include a high density 10 Gigabit Ethernet module (12 ports per module and up to 96 ports per chassis), high density 48 port modules supporting 10/100/1000 copper or 1000BASE-X SFP connectivity (up to 384 ports per chassis) and an innovative hybrid combination module that concurrently supports 10 Gigabit

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Ethernet (x2), 1000BASE-X (x24), and 10/100/1000BASE-T (x8) ports. This combo module provides additional flexibility for smaller Carrier deployments.

The latest generation interface modules feature Avaya Route Switch Processor network processing units enabling the switch to deliver new features through firmware updates as opposed to module replacement. Network processing units are large scale CPU arrays specifically designed for network related functions such as efficient examination and manipulation of packet headers.

Avaya specialized high performance network processing unit, the Route Switch Processor, is an in house development delivering fast path protection through its ability to support in life firmware upgrades while providing line rate switching and routing regardless of standards evolution. Avaya has been able to leverage this re-programmable capability to deliver new innovative features, such as IPv6, a flexible IP VPN suite, and the new Fabric Connect capabilities (IEEE/IETF Shortest Path Bridging), while maintaining hardware based performance levels. Equipment based on a traditional ASIC architecture is limited in that the functionality of the ASIC chipsets is set at a certain point in time and cannot easily adapt to future change. Typically this means that newer features and functionality are not supported only in hardware but require additional software processing that can adversely affect performance and increase latency until the next hardware refresh.

Having pioneered Switch Clustering capabilities more than a decade ago on the Ethernet Routing Switch 8000 platform, providing Active/Active core switching, Avaya Switch Clustering offers the ability for 2 x physically separate core switches to function as a single logical switch from a Link Aggregation standpoint. This allows for devices supporting LAG capabilities (third party switches, servers, and appliances) the ability to load balance across all available links, providing 70 millisecond failover in the event of failure, and removes the reliance on Spanning Tree based protocols for path selection. The combination of processing power, utilizing Active/Active core switches, also increases the overall processing power to over a Terabit worth of forwarding performance in the core.

Carrier Aggregation Core – 10Gig Centric with Gig Capability and Future 40/100Gig Support

The Avaya Virtual Services Platform 9000 is a next generation Ethernet Switching solution that delivers high performance, high capacity, and high availability for mission critical Carrier centric deployments. The Virtual Services Platform 9000 is built upon proven Ethernet Routing Switch 8000 software, incorporates a fully programmable network processor unit that combines both high performance traffic forwarding and the flexibility to seamlessly evolve in line with new technologies and standards, and features the Avaya carrier grade operating system. The Virtual Services Platform 9000 is designed to deliver a future ready, ultra-reliable network that provides high 10 Gigabit Ethernet density plus a seamless path to future 40/100G Ethernet, and simplified and agile virtual network infrastructures.

The Virtual Services Platform 9000 is currently offered in a 12 slot switch, providing 8.4Tbps switching performance (expandable to 27Tbps), and can scale to support up to 240 ports of 10 Gigabit Ethernet (or 480 ports of Gigabit Ethernet) in a highly resilient configuration. Ten of the slots are available for interface modules - 10G, 1G, 10/100/1000. The remaining two slots are reserved for Control Processor modules, and up to six Switch Fabric modules can be installed into the rear of the chassis. While not proposed, a ten slot variant will be released in the coming months offering eight line card slots with the same Control Processor and Switch Fabric module densities. Other form factors are being discussed. In addition, while also not included in the RFP, additional cards supporting greater densities and speed choices are planned.

As a next generation platform, the Virtual Services Platform 9000 also supports the Avaya innovative suite of virtualization solutions, including Avaya Fabric Connect network virtualization offering. Leveraging experience from always on networking capabilities added over more than a decade, the Virtual Services Platform 9000 supports Avaya Switch Clustering feature providing unmatched 20 millisecond fail over times. With the addition of a carrier grade operating system, sets new standards for robustness with advanced diagnostic and self healing capabilities.

Meeting requirements specific to Carrier Aggregation deployments, the solution employs a number of hardware and software assisted resiliency and recovery mechanisms:

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Control Plane High Availability Mode for Control Plane redundancy with hitless failover.
- <10ms network failure recovery and instantaneous re-route across all ports.
- Hardware assist for switch clustering (Split Multi-Link Trunking and Routed Split Multi-Link Trunking) providing 20ms failover capabilities for LAG's split between a High Availability pair of switches
- System level health check and self healing to enable system stability.
- Rapid Failure Detection and Recovery of Data Path.
- In service Control Plane Integrity Check.
- Hitless patching without reload of the complete system image.

Operation focus features for quick field serviceability:

- Flight recorder
- Packet capture
- Process separation
- Memory protection
- Health check hardware based filtering, along with flexible software based filters

5.2.8.8 Carrier Ethernet Access Switches - A carrier Ethernet access switch can connect directly to the customer or be utilized as a network interface on the service side to provide layer 2 services.

- Hot-swappable and field-replaceable integrated power supply and fan tray
- AC or DC power supply with DC input ranging from 18V to 32 VDC and 36V to 72 VDC
- Ethernet and console port for manageability
- SD flash card slot for additional external storage
- Stratum 3 network clock
- Line-rate performance with a minimum of 62-million packets per second (MPPS) forwarding rate
- Support for dying gasp on loss of power
- Support for a variety of small form factor pluggable transceiver (SFP and SFP+) with support for Device Object Model (DOM)
- Timing services for a converged access network to support mobile solutions, including Radio Access Network (RAN) applications
- Support for Synchronous Ethernet (SyncE) services
- Supports Hierarchical Quality of Service (H-QoS) to provide granular traffic-shaping policies
- Supports Resilient Ethernet Protocol REP/G.8032 for rapid layer-two convergence

Avaya Response:

Avaya is creating an Enterprise wide model for resilient access to applications and services with light touch provisioning, ultimately reducing OPEX, simplifying the management of the infrastructure and

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

reducing risk associated with making changes to the network. This being accomplished using standards based, next generation Ethernet technology, such as Avaya Fabric Connect technology based on IEEE/IETF's Shortest Path Bridging.

Adding to the comments already made in our response to Section 5.2.8.7, and positioning of Shortest Path Bridging as an alternate method to creating a private MPLS core, the products described in this section fulfill the need for Carrier Access switching at remote sites. While equipment proposed in this section can terminate Layer 2 MPLS connections, where the Service Provider extends MPLS support through VLAN identification, the products presented can also natively support Shortest Path Bridging service termination and pass through.

While proprietary network fabric technologies are limited to deployment within a data center and only focus on Layer 2 virtualization, Shortest Path Bridging extends virtualization end to end without the need for MPLS complexity or reliance on proprietary techniques crafted only for use between geographic locations. Not only can Shortest Path Bridging's end to end functionality be extended across existing Layer 2 MPLS connections, but also provide network operators the ability to virtualize many services prior to traversing a Service Providers MPLS cloud typically defined to support a single virtualized service.

Proposed products include Virtual Services Platform 4000 and Virtual Services Platform 7000 designed for carrier access where carrier-class features are required and carrier handoff is Ethernet based. While Avaya Virtual Services Platform 4000 and 7000 are proposed, the same base level carrier class features are common across all product families. The base level features as it relates to the RFP for the Virtual Services Platform 4000 have been included in the response to 5.2.5.1 and for the Virtual Services Platform 7000 the features have been included in the response to 5.2.8.2.

Carrier Access – Gig Centric with 1Gig/10Gig Uplink Capability

The Avaya Virtual Services Platform 4000 is the industry's first fabric enabled multiservice and multi-tenant edge device. It extends Avaya Fabric Connect to the Campus, MAN or WAN edge by providing a services rich yet low cost platform for small sites. It plays a critical role in delivering enterprise wide fabric architecture that spans from Data Center to desktop.

Leveraging the Linux operating system of Avaya data center core switch, the Virtual Services Platform 9000, the Virtual Services Platform 4000 provides a consistent feature set and command line interface. Its operating system contains many of the same features that contribute to the robustness of the Virtual Services Platform 9000 core platform including:

- Flight recorder style logging to help with continuous real time monitoring of internal control message flows
- Key Health Indicators that provide a view of system health at all levels such as, OS, system applications and protocols IO modules, ports, and the forwarding path

Virtual Services Platform 4000 hardware is based on the Ethernet Routing Switch 4800 Series product line. Customers can purchase new Virtual Services Platform 4000 systems from the factory (with a choice of three model variants) or can purchase a kit that enables Ethernet Routing Switch 4850 models, rev 10 and higher, to be converted (by adding a software module and cover) to a Virtual Services Platform 4000 system. The following VSP 4000 models exist:

- VSP 4850GTS: 48 ports of 10/100/1000 including two shared SFP and two SFP+ uplink ports with optional redundant power.
- VSP 4850GTS-PWR+: 48 ports of 10/100/1000 with PoE+ including two shared SFP and two SFP+ uplink ports with optional redundant power.
- VSP 4850GTS-DC: 48 ports of 10/100/1000 including two shared SFP and two SFP+ uplink ports with optional DC redundant power.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

The Virtual Services Platform 4000 offers a wide range of network services that can be deployed simply, with the following key services offered:

- Layer 2 Virtualized Services that extend VLANs across the Fabric including across subnets and long distances.
- Layer 3 Virtualized Services that interconnect and extend VRFs across the Fabric
- Native routing between Layer 2 and Layer 3 Virtualized Services for access to shared services.
- IP Shortcut Routing that enables direct Layer 3 connectivity between individual endpoints without requiring deployment of additional IGPs.

Carrier Access – 10Gig Centric with Gig Capability and Future 40/100Gig Support

The Avaya Virtual Services Platform 7000 is a Stackable Chassis offering utilizing its Fabric Interconnect as a connectivity building block in Avaya Fabric Connect architecture. The Virtual Services Platform 7000 offering allows for high aggregation Carrier Access needs that may exist with support of all SFP+ interfaces and ability to expand to expand to 256 x interfaces as a single managed solution. As a Carrier Access switch, it features a hardened physical architecture of dual, hot swappable AC or DC power supplies, redundant fan trays (with front to back or back to front cooling options), as well as the providing hot swappable units within a stack. The switch is an important addition for creating always on high performance solutions.

The Virtual Services Platform 7000 includes a host of strategic innovations that help enable it to continue to deliver performance and services throughout an extended life cycle. Among the future ready features is the advanced fifth generation ASIC chipset that has been optimized for network operations, including:

- Smart packet buffering to deliver lower latencies and efficiently reallocate memory to those ports suffering congestion
- Larger table capacities provide for scaling in the carrier space
- Embedded services in support of applications such as IPFIX
- Native support for the particular computational functionality crucial in high performance data center and metro deployment scenarios

Along with individual switching performance of over 1.2 Terabits per second, the switch is equipped with superior CPU and memory resources so that it has the capabilities to execute the algorithms necessary for a successful fabric based infrastructure. When stacking units together utilizing Avaya Stackable Chassis feature, common across the Avaya fixed format switching products, stacking throughput of 5.1Tbps is achieved (640Gpbs switch to switch) in a stack of 8 x switches. This capability creates a virtual backplane optimizing local traffic flows by always forwarding packets along the shortest path between source and destination, using dedicated high speed interconnections.

Offering High Availability for Carrier Access, the Virtual Services Platform 7000 supports Active/Active switching capabilities utilizing Avaya Switch Clustering technology (Split Multi-Link Trunking). While a feature unique to Avaya products, SMLT offers standards based interoperability with third party switches and routers supporting LACP for Link Aggregation. LACP link groups are split between 2 x physically separate Virtual Services Platform 7000 switches or switch stacks with all links actively passing traffic. Not only does this offer increased bandwidth over Active/Standby approaches, it also provides sub-second failover making in service software upgrades and maintenance possible without affecting real time traffic.

Leveraging Avaya Fabric Connect from the Carrier Access layer, the Virtual Services Platform 7000 provides direct Layer 2 service creation that can be extended to the data center or across the WAN over a Shortest Path Bridging backbone. Virtualization of individual Layer 2 services could be created for a host of applications including multitenant use, video surveillance, building controls or other applications

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

requiring isolation and support real time protocols. In addition, the Virtual Services Platform 7000 functions as a very robust Shortest Path Bridging Backbone Core Bridge at the Carrier Access layer supporting Shortest Path Bridging transit links carrying virtualized Layer 2, Layer 3 and virtualized Multicast services end to end.

5.2.9 WIRELESS - Provides connectivity to wireless devices within a limited geographic area. System capabilities should include:

- Redundancy and automatic failover
- IPv6 compatibility
- NTP Support

Avaya Response:

Avaya Wireless Networking portfolio delivers WLAN solutions that can meet the challenges of today, tomorrow, and into the future. While wire remains the mainstay of office environments, the enhanced throughput and range that 802.11n offers over 802.11 a, b, and g makes WLAN a viable alternative to wired networking for end user connectivity.

The Avaya WLAN 8100 Series is a next generation WLAN solution that delivers high performance that enterprises require. The WLAN 8100 Series architecture embeds the wireless data plane into the switching infrastructure, enabling common hardware reuse, fewer components, and common scalability. Centralized management removes the complexities and cost of supporting multiple overlay networks. Through the 802.11n wireless standard the solution provides increased throughput, reliability, and range. The WLAN 8100 Series is a complete solution that is ideal for enterprises looking to move users to wireless access for today's leading business, IP Telephony, and converged multimedia applications.

We can deliver the following benefits:

- Reduce total cost of ownership: The WLAN 8100 Series provides centralized management and removes the complexities of supporting multiple overlay networks (LAN, WLAN, VPN, and network management). This reduces operational costs.
- Scalable architecture with separate data and control planes, each of which can scale independently.
- Performance: The WLAN 8100 Series provides high performance through the 802.11n standard. It uses Multiple In, Multiple Out-Orthogonal Frequency Division Multiplex and multiple spatial streams, allowing for high performance levels and improving coverage when compared to prior systems such as 802.11a, g, and b. Avaya has extensive experience with Multiple In, Multiple Out-Orthogonal Frequency Division Multiplex as a significant contributor to the standards is reflected in the superior radio frequency performance of the Avaya Access Points.
- Security: WLAN 8100 Series solution is built around 802.11i. It supports Wi-Fi Protected Access 2 and other security features that are more robust than those of any wired network. Strong, flexible two-factor authentication and authorization, along with robust protection mechanisms, make the wireless network secure enough to meet your customers' expectations.
- E911 support- Emergency Services Location Support – identifies precise location of emergency calls (E-911).
- VIEW certification with Avaya Wireless Handsets for proven Wi-Fi interoperability and maximum performance.
- Improved VoWLAN (voice) scaling.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Ability to obtain the time from any RFC 2030-compliant NTP or SNTP server. SNTP for time synchronization support primary and secondary NTP server synchronization.
- Clustering of Access Point licenses: N-1 resiliency model compared to the industry norm of N+1. In addition to the capability to install resiliency backup controllers.

5.2.9.1 Access Points - A wireless Access Point (AP) is a device that allows wireless devices to connect to a wired network using Wi-Fi, or related standards. Capabilities should include:

- 802.11a/b/g/n
- 802.11n
- 802.11ac
- Capable of controller discovery method via DHCP (onsite controller or offsite through Cloud Architecture)
- UL2043 plenum rated for safe mounting in a variety of indoor environments
- Support AES-CCMP (128-bit)
- Provides real-time wireless intrusion monitoring and detection

Avaya Response:

The WLAN Access Point 8120/8120-E is a high performance 802.11a/b/g/n, Dual Radio, Two Spatial Stream, Multiple Input / Multiple Output access point. The WLAN Access Point 8120 has an integrated antenna and the WLAN Access Point 8120-E is plenum rated UL 2043 for use with external antennas. The Access Point 802.11ac is future development and is scheduled for release the first half of calendar year 2014. The Access Point is centrally controlled by the WLAN 8100 Controllers and provides wireless service for mobile clients, including legacy 802.11 a, b, and g clients. The Access Points are managed centrally by the WLAN 8100 Management System.

- WLAN Access Points provide wireless access to mobile devices and perform encryption/decryption for wireless traffic, priority queuing and radio frequency monitoring, including rogue Access Point identification and containment. Indoor and outdoor Access Points and external antennas are available.
- The WLAN AP 8120/8120-E supports DHCP assisted discovery and DNS assisted discovery of the controllers.
- WLAN Controllers control the Access Points and perform key centralized functions such as security, networking, quality of service, and roaming for mobile users. Controllers can be deployed as either standalone wireless controllers or integrated into the Avaya wired portfolio with the control capability running as a virtual machine on a server.
- Supports wide range of authentication and encryption standards:
  - WEP, WPA, WPA2, AES(128-CCMP/TKIP), IEEE 802.1X
- Performs automated radio frequency scans to detect rogue Access Points and radio frequency attacks; assists controller in coordinated threat mitigation:
  - 802.11i/WPA/WPA2 Security
  - Performs symmetrical cryptography locally for best performance

Strong VoWLAN performance: Supports up to 40% more voice calls per Access Points than other WLAN vendors.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Access Point radio cell recovery feature, recover the radio frequency coverage of a failed Access Point.

5.2.9.2 Outdoor Wireless Access Points - Outdoor APs are rugged, with a metal cover and a DIN rail or other type of mount. During operations they can tolerate a wide temperature range, high humidity and exposure to water, dust, and oil. Capabilities should include:

- Flexible Deployment Options
- Provides real-time wireless intrusion monitoring and detection
- Capable of controller discovery method via DHCP (onsite controller or offsite through Cloud Architecture)

Avaya Response:

The Wireless LAN Access Point 8120-O is a high performance 2x2 dual concurrent 802.11n outdoor access point. With certified IP-67 protection, the Wireless Access Point 8120-O delivers high reliability under harsh outdoor environments. The Wireless Access Point 8120-O uses a sealed waterproof and dust proof enclosure and provides complete protection against contact with internal components. The Access Point 8120-O is Wi-Fi Alliance certified.

It is centrally controlled by WLAN 8100 controllers and supports DHCP assisted discovery and DNS assisted discovery providing wireless service for mobile clients including legacy 802.11 a, b, and g clients.

- Advanced Call Admission Control support
- External Antenna; Four antenna ports
- Environmental Protection: IEC 60529 IP-67 (sealed dust proof and waterproof)
- Access Point 8120-O delivers high reliability under harsh outdoor environments
- Flexible mounting kit provides options for pole mounting (horizontal/vertical), wall mounting and wall mounting with tilt capability (30°).
- Performs automated radio frequency scans to detect rogue Access Points and radio frequency attacks; assists controller in coordinated threat mitigation. Access Points can operate in multiple modes providing flexible WIDS/WIPS protection. Avaya also offers advance WIDS/WIPS protection.

5.2.9.3 Wireless LAN Controllers - An onsite or offsite solution utilized to manage light-weight access points in large quantities by the network administrator or network operations center. The WLAN controller automatically handles the configuration of wireless access-points. Capabilities should include:

- Ability to monitor and mitigate RF interference/self-heal
- Support seamless roaming from AP to AP without requiring re-authentication
- Support configurable access control lists to filter traffic and denying wireless peer to peer traffic
- System encrypts all management layer traffic and passes it through a secure tunnel
- Policy management of users and devices provides ability to de-authorize or deny devices without denying the credentials of the user, nor disrupting other AP traffic
- Support configurable access control lists to filter traffic and denying wireless peer to peer traffic

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Response:

Avaya WLAN 8100 series Wireless Controller 8180 provides wireless management, control and wireless switching functions. The WLAN 8100 solution can support a cluster of up to 32 Wireless Controller 8180s in a single mobility domain. The Wireless Controller 8180 provides SNMP, Console, Telnet, SSH, and Web interfaces for management. The Wireless Controller 8180 is a high capacity WLAN controller for medium to large size enterprise deployments. The Wireless Controller 8180 is a complete enterprise grade WLAN solution, which combines the latest industry 802.11n standards with a new truly unified wired and wireless architecture. The Wireless Controller 8180 provides centralized management and the latest security standards to support large scale deployments and to mainstream WLAN connectivity. Used with our Identity Engines policy authenticated network architecture you have full control of your network and is based on the notion of authentication of all users on a network and the association of each user with a particular set of network entitlements. Access can be granted based on device, vpn, wired, wireless, user, time of day, or location. User credentials can be defined from multiple user data stores (Radius, Active Directory, Kerberos, and LDAP). Benefits are improved security and granular control: Secured wireless and guest access, role based access control and compartmentalization of the network to segment and protect data.

Key features

- The Wireless Controller 8180 offers high performance and service resiliency designed for voice and multimedia applications.
- The Wireless Controller 8180 enables Layer 2 and Layer 3 seamless roaming among all access points and peer controllers without the need to re-authenticate.
- Shares user authentication information and associated policies with other Wireless Controller 8100 series controllers to minimize delay and jitter while roaming.
- Offers dynamic Call Admission Control based on codec and traffic prioritization, and protects and guarantees consideration for delay and jitter sensitive traffic like VoIP and MMoIP.
- Offers Quality of Service and supports 802.11e, Wi-Fi Multimedia, Differentiated Services Code Point, 802.1p, and IP Type of Service.
- Has a resilient design with dual redundant power supplies and a field replaceable fan tray.
- Centralized Access Point management that provides networking, security, Quality of Service, radio frequency management, image management, and roaming.
- Efficient and flexible load balancing of Access Points across controllers.
- 30,000 wireless clients per controller.
- Captive Portal with guest management with WLAN Management Software or Identity Engines.
- Controllers can be deployed as either standalone wireless controllers or integrated into the Avaya wired portfolio with the control capability running as a virtual machine on a server.

5.2.9.4 Wireless LAN Network Services and Management - Enables network administrators to quickly plan, configure and deploy a wireless network, as well as provide additional WLAN services. Some examples include wireless security, asset tracking, and location services. Capabilities should include:

- Provide for redundancy and automatic failover
- Historical trend and real time performance reporting is supported
- Management access to wireless network components is secured

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- SNMPv3 enabled
- RFC 1213 compliant
- Automatically discover wireless network components
- Capability to alert for outages and utilization threshold exceptions
- Capability to support Apple's Bonjour Protocol / mDNS
- QoS / Application identification capability

Avaya Response:

Avaya WLAN Management Software is a comprehensive design and management tool that identifies ideal access point locations on detailed floor plans, configures all devices with a single click WEB UI and provides granular monitoring and reporting for complete visibility and control over the entire system. Provides everything needed to handle troubleshooting and to support calls for enterprise wide converged wireless services through granular monitoring.

Key Features:

- Delivers integrated tool suite for pre and post deployment system wide configuration and upgrades, ongoing monitoring, and reporting.
- Site Model Designer graphical tool for selecting controllers and Access Points for configuration, status/performance monitoring and monitoring the inventory of Access Points and controllers.
- Sub-second data plane failover (support for a fail over that can happen in under a second).
- Delivers full fault and event management capabilities.
- Supports SNMP v3 and RFC1213.
- Supports secure SSH with source management access list and audit logging.
- Detects/discovers and maps location of coverage holes, rogue Access Points, and users.
- Enables administrators to perform system wide updates with a single key stroke and see what's happening via a graphical interface.
- Supports Quality of Service and supports 802.11e, Wi-Fi Multimedia, Differentiated Services Code Point, 802.1p, and IP Type of Service.
- Enhanced Distributed Channel Access settings for voice data. High priority queue, minimum delay, supporting time sensitive data such as VoIP and streaming media.
- Offers dynamic Call Admission Control and traffic prioritization, protects and guarantees consideration for delay and jitter for sensitive traffic like VoIP and MMoIP.
- Dynamic Call Admission Control admits requests based on the measured real time traffic load and/or number of stations and only admitted if its Quality of Service constraints can be satisfied without jeopardizing the Quality of Service constraints of existing calls in the network.
- Avaya Real Time Location Services allows enterprises to track personnel and assets as they move within the Avaya WLAN 8100 Series network.
- Accepts multiple levels of administrator access to support delegated management structures.
- Offers enhanced radio frequency pattern accuracy through importation of radio frequency data and maps from Ekahau™ site survey tool.
- Generates a detailed radio frequency map showing calculated radio frequency coverage on floor plan.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Verifies radio frequency mapping and coverage zones.
- Tracks user location, bandwidth rate, and usage statistics.
- Enables export of all system statistics in tables and graphs.
- Calculates WLAN topology, and configurations including power level and channel settings.
- Provides system wide configuration and updates in a single step.
- Alerts administrators of conflicting change requests.
- Captive Portal with guest management with WLAN Management Software or Identity Engines.
- Runs on common server platforms including Windows 2000, 2003, and 2008 Servers, and LINUX.
- Supported on VMWare.

5.2.9.5 Cloud-based services for Access Points - Cloud-based management of campus-wide WiFi deployments and distributed multi-site networks. Capabilities include:

- Zero-touch access point provisioning
- Network-wide visibility and control
- RF optimization,
- Firmware updates

Avaya Response:

While no branded cloud offering exists as a Service Provider offering, Avaya WLAN 8100 series portfolio can leverage the ability for an Enterprise to provide a private cloud-based offering for campus wide and distributed multisite networks. Distributed processing added to the WLAN 8100 series Access Points early next year, will add additional deployment flexibility.

The WLAN 8100 product provides zero touch access point provisioning, leveraging DHCP options to instruct the Access Point where the WLAN controller(s) exists. Default Network and Radio profiles, managed by the WLAN 8100s WLAN Management Software system and resident on the WLAN controllers, allow automated Access Point configuration upon deployment. Firmware updates for Access Points are controlled and managed by the WLAN controllers, while providing flexibility in pushing updates to Access Points. Understanding the specific environment where Access Points are placed allows the WLAN 8100 series controller to automatically optimize radio frequency channel and power usage for the specific environment.

5.2.9.6 Bring Your Own Device (BYOD) - Mobile Data Management (MDM) technology utilized to allow employees to bring personally owned mobile devices (laptops, tablets, and smart phones) to their workplace, and use those devices to access privileged government information and applications in a secure manner. Capabilities should include:

- Ability to apply corporate policy to new devices accessing the network resources, whether wired or wireless
- Provide user and devices authentication to the network
- Provide secure remote access capability
- Support 802.1x

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Network optimization for performance, scalability, and user experience

Avaya Response:

While Avaya is not proposing MDM software, controlling device specific application use, Avaya Identity Engines portfolio works with third party MDM offerings to extend identity aware network access for a holistic BYOD strategy.

Avaya Identity Engines product family is a standards based, identity aware Network Access Control suite, having won Best of Interop finalist at Interop last year. As a vendor agnostic Policy Enforcement Engine, Avaya Identity Engines portfolio integrates with any current network infrastructure and MDM software to provide the central policy decisions needed to enforce roles based Network Access Control. This is accomplished by combining the best elements of a next generation RADIUS/AAA server, the deep directory integration found in application identity offerings, and one of the industry's most advanced standards based policy engines. All this is done out-of-band for maximum scalability and cost effectiveness.

The Avaya Identity Engines portfolio provides the following key features:

- Centralized AAA: Provides centralized RADIUS and TACACS+ AAA services for network devices.
- Highly advanced, standards based Extensible Access Control Markup Language policy engine: Applies access policies consistently and transparently across the network.
- Easy deployment model: Integrates seamlessly with existing networks and directories in a vendor agnostic approach.
- Simple policy set up: Manage access policies, posture check policies, VLAN provisioning rules, user store connections, and network switch security profiles via a simple user interface.
- High availability: Provides a highly available RADIUS and TACACS+ server as well as a highly available database service for Ignition policy decisions.
- Powerful user identity services: The administrator determines how Ignition searches multiple user stores for user credentials, user attributes, and groups.
- Dynamic session provisioning: Assigns each user to an appropriate VLAN, based on the attributes of the user or the context of the login.
- Rich support for non-802.1X devices: Industry leading MAC address authentication features to handle non-802.1X devices such as medical equipment and printers.
- Guest management: Securely supports guest and temporary users.
- User monitoring: Monitors users' network sessions in real time, keyed to identity.
- Reporting: Automatically generates and distributes network usage and authentication reports.
- TACACS+: Can be deployed to authorize and log all administrator actions on switches and devices that support TACACS+ authorization.

Automation of Windows based 802.1x supplicant provisioning, for either temporary or permanent use, through a dissolvable client.

Captive Portal functionality for wired or wireless users, where client 802.1x controls may not have been provisioned or are not warranted, providing controlled access to Network resources while establishing a unique fingerprint for each device. Combined with automation of 802.1x supplicant provisioning and Guest Management, establishes a foundation for BYOD initiatives.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Identity Engines Components:

- Identity Engines Ignition Server
- Identity Engines Ignition Server – Additionally Licensed Features
- Identity Engines Guest Manager
- Identity Engines Access Portal
- Identity Engines Client for Accessing the Secure Enterprise Administration

Please see the response to 5.2.6 where a full product description has been provided for the Identity Engines components.

5.3.0 UNIFIED COMMUNICATIONS (UC) - A set of products that provides a consistent unified user interface and user experience across multiple devices and media types. Unified Communications that is able to provide services such as session management, voice, video, messaging, mobility, and web conferencing. It can provide the foundation for advanced unified communications capabilities of IM and presence-based services and extends telephony features and capabilities to packet telephony network devices such as IP phones, media processing devices, Voice over IP (VoIP) gateways, and multimedia applications. Additional services, such as unified messaging, multimedia conferencing, collaborative contact centers, and interactive multimedia response systems, are made possible through open telephony APIs. General UC solution capabilities should include:

- High Availability for Call Processing
- Hardware Platform High Availability
- Network Connectivity High Availability
- Call Processing Redundancy

Avaya Response:

Avaya Aura® is a communications architecture and solution that can help transform any organization by improving communications, simplifying complex networks, and reducing infrastructure costs. As a next generation network architecture featuring an enterprise wide approach based on the IP Multimedia Subsystem reference architecture, Avaya Aura® represents a departure from a TDM PBX architecture, an IP PBX architecture, and a soft-switch architecture.

The solution consists of the following core applications:

- Avaya Aura® Session Manager
- Avaya Aura® Communication Manager
- Avaya Aura® Communication Manager Messaging
- Avaya Aura® Agile Communication Environment
- Avaya Aura® Application Enablement Services
- Avaya Aura® Presence Services
- Avaya Aura® Session Border Controller

The architecture helps meet the needs of business users by allowing IT departments to rapidly deploy needed applications and capabilities to users regardless of their location, access device, or network. Avaya Aura® is evolutionary, allowing the re-use of existing assets and the capability to incrementally add

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

new capabilities. It allows optimizing the current network while laying the foundation to move to a more user centric model.

The solution also provides significant new business agility and cost savings opportunities by changing how communication solutions are designed and deployed. It decouples business communication applications from a specific PBX so that it no longer defines the relationship between users and their communication services. This agility makes these systems as a whole more resilient. Fewer dependencies also mean that a change at any one location has limited impact.

Tangible Benefits of Avaya Aura®

The Avaya solution provides administrators with the ability to manage real time, standards based, multivendor unified communications applications environments that deliver reliability, scalability, manageability, and quality. Avaya Aura® creates many opportunities to reduce the operational expense associated with the communication infrastructure. In addition, the infrastructure can be upgraded to this architecture while maintaining, or even enhancing, the value of the existing assets in the following ways.

Centralization

Centralization benefits include:

- Centralized Management: Avaya Aura® System Manager is the single administration vehicle for the enterprise and the single point of management for logging, call tracing for debugging, and alarming.
- Centralized Deployment of Applications: Traditionally, each business user is provided service by a PBX within the enterprise. When additional unified communications capabilities such as messaging and desktop clients are provided, separate applications are deployed with the PBX and IT is left to support multiple application servers from multiple vendors in addition to the PBX network. Avaya Aura® reduces the complexity and cost associated with application deployment by supporting a centralized deployment model, which allows users from different PBXs to access services from a single instance of an application.
- Trunk Consolidation: For larger enterprises and some small customers, it is difficult to effectively manage the costs of trunks. Small pools of resources spread throughout the network leads to inefficient resource utilization. Centralized trunking that moves many, but not all, trunks from the network edges to the core creates scaled efficiencies.
- The cost benefit of centralized management is that the IT organization can make administration changes once and then System Manager will transmit the data to all affected applications. Avaya Aura® Session Manager removes the traditional complexities associated with trunk consolidation and the centralized pool allows IT to reduce the total number of trunks required to support the enterprise. Traffic can be routed over the best path at the lowest cost at any time of the day from any location within the enterprise, providing effective long distance calling across the enterprise. These capabilities simplify the ongoing analysis of traffic measurements to maintain an optimal number of trunks in the future. The remaining edge trunks are now efficiently shared throughout the enterprise by Avaya Aura® for Tail End Hop Off.
- Reduced Footprint: Avaya understands that green initiatives are important as a means of both saving on expenses and lessoning the environmental impact. Centralization of applications, trunks, and media resources leads to efficiencies of scale that reduce the footprint and power consumption of the solution. IP trunks from the Service Provider reduce the need for DSP resources in gateways, which reduces gateway expense and footprint.

Simplification

Simplification benefits include:

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Call Routing Simplification: Even with a flattened and consolidated infrastructure, administrators are left to manage multiple PBX systems, often from multiple vendors. Dial plan and call routing tables are subject to change as the result of organic growth by adding new locations and their PBXs to the network; business contraction by removing a PBX; or a merger or acquisition that adds a PBX, possibly from a new vendor. Avaya Aura® removes this complexity by allowing changes to be made in one location.
- Long Distance Cost Management: Centralized management and call routing simplification make it easy to implement inter-office on-net routing, Tail End Hop Off, and least cost routing across multiple carriers. The Avaya one-X® Mobile client can further reduce long distance costs, especially for international calls, via mobile hop on.

Agility and Reduced Time to Market

- Typically the capabilities or services that the user has access to are entirely dependent on the PBX that is servicing the user. Avaya Aura® removes this limit by providing capabilities to users and standard interfaces for the development of new applications.
- Deployment of Sequenced Applications: Session Manager provides the ability to add new applications that run side by side with Avaya Aura® Communication Manager without requiring changes to existing applications. It contains a user profile for each user, which contains the applications that the user is associated with. The value of this approach is that adding a new application or service for a user is as simple as deploying the application on an application server and administering the user profile to allow that user to access to the service.

Delivery of New Services

The benefits of delivering new services include:

- Development of New Services: Avaya Aura® removes the complexity of new feature development with its ability to deploy sequenced applications. New services can be developed by Avaya Professional Services, ISVs, or in house developers, and the development of a sequenced application is not tied to PBX software release schedules. This enables a best of breed approach that provides options and flexibility.
- New Services for Users on Legacy PBXs: The services available to a user on a legacy PBX remains largely tied to the capabilities of the PBX. Avaya Aura® allows administrators to provide enhanced services to a small group at an existing site by providing those users with a SIP endpoint that registers to the core while leaving the legacy PBX in place for the rest of the community.

As integral components of the Avaya Converged Infrastructure, Avaya Servers and Media Gateways provide highly flexible, scalable, standards based building blocks that can be mixed and matched to create customized solutions. This enables the centralized management efficiency of a single, streamlined network while delivering best in class call processing quality and availability that have made Avaya the communication solution provider that more than 90% of FORTUNE 500® companies rely on every day.

Avaya Common Servers leverages the powerful capabilities of the next generation HP ProLiant and the Dell® PowerEdge servers to provide the reliability, scalability, and processing power required for the Avaya communications solutions, and they are used across the wide range of Avaya products. These servers incorporate Intel Xeon E5600 series processor technology and deliver the capabilities required for real time communications applications in a 1U form factor. Avaya Servers and Media Gateways can be mixed and matched to create custom convergence solutions to meet enterprise scalability requirements.

Communication Manager software is the open, highly reliable and extensible IP Telephony foundation on which Avaya delivers unified communications solutions to enterprises large and small. It delivers rich

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

voice and video capabilities and provides for a resilient, distributed network of gateways and analog, digital and IP-based communication devices. In addition, Communication Manager boasts robust PBX features, high reliability and scalability, and multi protocol support. It includes advanced mobility features, built in conference calling and contact center applications, and E911 capabilities. Communication Manager effectively scales from less than 100 users to as many as 36,000 users on a single system and to more than one million users on a single network.

Avaya Aura® builds on the highly reliable and extensible IP-based Communication Manager software and brings it together with the SIP-based Session Manager capability. This powerful combination makes it possible to unify media, modes, networks, devices, applications, and real time actionable presence across a common infrastructure to create on demand access to services and applications. The result is a platform for fully exploiting the value of converged communications, satisfying the needs of employees and customers, and quickly distributing the enhanced applications that deliver improved performance while driving down overall costs and simplifying system management.

Communication Manager provides robust PBX features, high reliability and scalability, and multi protocol support. It includes advanced mobility features, built in conference calling, contact center applications, and E911 capabilities. It provides user and system management functionality, application integration and extensibility, and enterprise communications networking. It can be deployed as either an Evolution Server or a Feature Server within the Avaya Aura® architecture.

Designed to run on Avaya Common Servers as well as Avaya S8300 Servers, Communication Manager provides a range of capabilities to enable the virtual enterprise, including:

- Robust voice and video call processing capabilities across a resilient distributed network of media gateways and a wide range of analog, digital, and IP-based communication devices
- Advanced workforce productivity and mobility features
- Built in conferencing and contact center applications
- Centralized voicemail and attendant operations across multiple locations
- E911 capabilities
- Support for SIP, H.323, and many other industry standard communications protocols over a variety of different networks, enabling centralized voice mail, attendant operations, and call centers across multiple locations
- More than 700 powerful features
- High availability, reliability, and survivability designs

Optional Survivable Core key features include:

Survivable Core server configuration supports core survivability in deployment and is available with both Avaya Common Server simplex and duplex installations. Failover and failback to Survivable Core processors is connection preserving on the Avaya G430 and G450 Media Gateways. As many as 64 Survivable Core servers can be installed.

Optional Survivable Remote

Survivable Remote server configuration supports survivability at the branch and can be deployed on an Avaya S8300 server installed in an Avaya G430 or G450 Media Gateway, or on a simplex Avaya Common Server for larger locations, the Survivable Remote server provides full feature functionality at remote locations for H.323 as well as analog and digital stations and trunks.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

SIP Feature Expansion

Communication Manager supports the following capabilities on compatible Avaya one-X® Deskphones using SIP firmware, as well as on Avaya one-X® Communicator softphones:

- Per Button Ring Control: Administrators can configure individual line appearances to audibly ring or silently alert as required by users
- Call Pickup Alerting: Adds visual alerting of incoming calls to call pickup buttons
- Avaya one-X® Portal SIP Integration: The one-X Portal user interface may be used with SIP telephones to allow thin client capabilities to users around the world
- Avaya one-X® Mobile SIP Integration: The one-X Mobile clients may be used with SIP telephones to add simultaneous ringing, seamless call transfer between devices, and robust mobility features
- Internal Calling Party Number Block: Brings the name and number privacy features enjoyed for outside calls to internal calls for SIP telephone users
- Call Park/Un-park Button: Greatly simplifies the procedures and user interface for parking and un-parking calls to SIP telephones

Other key features include:

- Telephony: Provides a comprehensive set of telephony features, including auto attendant, call transfer, and call forward
- Mobility: Provides extensive in/out of building wireless choices and hot desking features such as Extension to Cellular, Personal Station Access, and Automatic Customer Telephone Rearrangement to extend Communication Manager features to users no matter where they are working
- Collaboration: Provides built in features such as six party Meet Me Conferencing or the optional 300 party Expanded Meet Me Conferencing
- Call Center Integration: Provides for easy integration of call center applications such as Avaya Call Management System for real time reporting and performance statistics, and Avaya Business Advocate for expert predictive routing based on incoming calls rather than historical data
- Application Integration: Allows IT application developers to leverage Communication Manager functionality via standard Web Services interfaces to enable integration of business and communication applications with real time telephony
- G.711 Music on Hold: Provides an optional enhancement whereby the clarity and sharpness of the G.711 codec can be used when playing music on hold to callers

SIP based routing provides additional centralized control capabilities and significant improvements in scale, enabling more cost effective and larger distributed deployments for enterprises. Session Manager overlays the existing PBX infrastructure for an evolutionary path forward that protects investments in Avaya systems and software.

High Availability

Session Manager is a fully redundant SIP core that easily survives network and hardware failures to provide more than 99.999% uptime of reliability. Together with the Avaya 9600 series SIP endpoints, it provides active/active SIP service to endpoints in the enterprise. Service automatically switches between active Session Managers should network problems occur and recovers without user or administrator intervention. The Avaya 9600 series SIP endpoints and Avaya one-X® Communicator, a softphone, simultaneously register with multiple Session Managers at the core and the branch.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

High availability and disaster recovery is supported for up to ten Session Manager instances in an enterprise. The instances provide redundancy and can be implemented within the same data center or in geographically separated data centers around the world.

An active/active approach is used, where all instances are simultaneously active. Each SIP Entity or endpoint registers with two Session Manager instances, a primary and a secondary. Any requests go to the primary instance unless it cannot be reached, in which case the secondary one is used. This is an important concept for reliability and for distributing traffic across the network.

The Communication Manager Survivable Core and Survivable Remote server capabilities continue to be available to support analog, digital, and H.323-based IP stations and trunks.

Branch Survivability

Survivable remote sites include a Survivable Remote Session Manager and Survivable Remote Communication Manager. SIP telephones simultaneously register to the main, backup, and the Survivable Remote Session Manager. During a WAN outage, the SIP telephones failover to the Survivable Remote Session Manager for call routing, and the Survivable Remote Communication Manager for feature functionality.

The branch survivability option is based on Avaya Aura® System Platform, which allows both the Survivable Remote Session Manager and the Survivable Remote Communication Manager to be mounted on the same server.

This server option of the Communication Manager allows a business to implement additional options for survivability. The server is capable of taking over for the entire enterprise or, if needed, just a portion of the enterprise in the event that an outage has occurred.

The Survivable Core server takes over for the main Communication Manager server in the event of server hardware failure or a network outage. The main server can be configured as either a Feature Server (providing service for SIP telephones only) or an Evolution Server (serving both SIP and non-SIP telephones). A Survivable Core server can support Communication Manager servers configured as Feature Servers or Evolution Servers so that both SIP and non-SIP endpoints are covered.

Avaya Aura® enterprise cloud communications support Survivable Core servers in either duplicated or simplex configurations. In a Survivable Core environment, a main Communication Manager server can be:

- A simplex Avaya Common Server, supported by a simplex Survivable Core server
- Duplex Avaya Common Servers, supported by either simplex or duplex Survivable Core servers, the latter of which use software duplication for additional redundancy

The Avaya Common Server is used for both the simplex and the duplex Survivable Core servers. Each Communication Manager main server instance can be backed up by up to 63 Survivable Core instances in the same or geo-redundant locations, data centers, and/or subnets.

Through careful planning and consideration, the Survivable Core servers are placed in various locations in the network. The Media Gateways in the enterprise maintain a priority list of Survivable Core servers with the main Communication Manager server always assigned as the highest ranking server. Each Survivable Core server is administered on the main server and during administration priority values are assigned to the Survivable Core server(s).

System translations are automatically synchronized between the main Communication Manager server and the Survivable Core server(s). Once they receive the translations, the administered values are advertised to every Media Gateway in the configuration and are used by them to prioritize the Survivable Core servers. If the Media Gateway loses connectivity to the main server, it will request service from the Survivable Core server that has the next highest priority rating. If that request for service fails, the Media Gateway will make a request to the next highest priority server, and so on, until it is able to get service.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Benefits

The benefits of deploying Survivable Core servers include:

- Enhanced survivability of communications is achieved by deploying Survivable Core servers at key points in the enterprise network
- Flexibility in how the system fails over and protection against network failures, catastrophic main server failures, or both
- Full feature availability in survivability mode since the Survivable Core servers support all Communication Manager features
- Ease of administration since all translations are performed at one central point, the main Communication manager server, and are then automatically synchronized to all Survivable Core servers
- Ease of use since the Survivable Core servers provide automatic failover and failback

5.3.0.1 IP Telephony - Solutions utilized to provide the delivery of the telephony application (for example, call setup and teardown, and telephony features) over IP, instead of using circuit-switched or other modalities. Capabilities should include:

- Support for analog, digital, and IP endpoints
- Centralized Management
- Provide basic hunt group and call queuing capabilities
- Flexibility to configure queue depth and hold time, play unique announcements and Music on Hold (MoH), log in and log out users from a queue and basic queue statistics (from the phone
- E911 Support

Avaya Response:

The Communication Manager Survivable Core and Survivable Remote server capabilities continue to be available to support analog, digital, and H.323-based IP stations and trunks.

Avaya Contact Center Control Manager provides centralized operational administration for Avaya contact center products through an intuitive browser based interface. It allows one time definition and ongoing management of data and functions relevant to contact center systems such as agents, skills, vector directory numbers, vectors, service hours tables, vector routing tables, holiday tables, extensions, announcements, call flows, CTI, IVR working hours, dynamic prompts, and menu content. After the functions and data are defined, they are automatically provisioned to all relevant Avaya contact center products.

Avaya Contact Center Control Manager seamlessly integrates with and supports operational administration of the following Avaya products.

Avaya Aura® Communication Manager

Avaya Call Management System

Avaya Aura® Presence Services

Avaya IQ

Avaya Aura® Session Manager

Avaya Aura® Contact Center

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya SIP Enablement Services•

Avaya Interaction Center

Avaya Modular Messaging

Avaya Contact Center Express

Avaya Aura® Messaging

Avaya Proactive Contact

Avaya Communication Manager Messaging

Avaya Aura® Application Enablement Services

Avaya Aura® Collaboration Server

Avaya one-X® Communicator

Avaya Aura® Experience Portal

Avaya one-X® Mobile

Avaya Proactive Outreach Manager

Avaya one-X® Portal

Avaya Interactive Response

Avaya one-X® Agent

Key Features and Benefits

Avaya Contact Center Control Manager offers the following features and benefits:

- Centralized management and administration of all contact center applications
- User friendly, Web-based, highly personalized, thin-client application interface
- Simplifies administration and reduces labor intensive administrative tasks
- Non-technical staff can perform administrative tasks easily
- Full tenant partitioning with role based access controls
- A single deployment of Avaya Contact Center Control Manager supports multiple Communication Manager systems
- Seamless transition for customers with a mixed environment of Avaya Contact Center products
- Negligible hardware requirements, a green solution enabling virtualization and cloud networking, and processing
- A scalable solution that accommodates organizations of all sizes
- Intuitive visual call flow design and vector management
- An unlimited number of virtual groups can be managed and agents can be assigned to multiple virtual groups
- Full Microsoft® Active Directory integration with single sign on functionality

ACD is an Communication Manager feature that processes high volume incoming, outgoing, and internal calls and then distributes them to groups of extensions called hunt groups or splits. In Avaya Aura® Call Center Elite, hunt groups or splits are referred to as skills. Calls to a specific skill are automatically

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

distributed among the agents that possess the desired skill. Calls queue to the skill until an agent is available. ACD allows the administrator to create an efficient call management environment. The administrator can add or remove skills from the system, add or remove announcements, add or remove agents, call treatments assigned to a skill, add trunk groups, and route calls to the appropriate skills. The administrator can also specify ACD measurement criteria to provide reports on ACD efficiency.

Call Center Elite can allow your staffed agent to be active in as many as 120 assigned skills. With Expert Agent Selection active, you can administer agents to accept delivery of inbound ACD calls under call surplus conditions using Greatest Need, Service Level Maximizer, or Skill Level with support for up to 16 different levels per skill.

You can set the Call Center software to maintain a separate queue for available agents in each skill ensuring that when agents answer an ACD call they are only removed from the available agent queue for the skill for which that call arrived. Or, you can create one system wide combined queue for all staffed agents, ensuring that staffed agents are removed from the queue whenever they answer a call for any of their assigned skills.

Logical Agent

This feature is a capability of the Expert Agent Selection feature. With it, an agent's ACD Login ID is associated with a particular telephone only when the agent actually logs in at that telephone. When the agent logs off, the association of an agent's ACD Login ID with a particular telephone is removed. The feature allows ACD agents to log into any telephone on the system regardless of type, designation, or location. This can be very useful when additional ACD positions are needed on short notice or when a disaster strikes. All agents in the system can be designated as Logical Agents if desired.

In addition to skills, the following capabilities are associated with agents' login IDs:

- **Calls:** Calls to the Login ID reach the agent independent of the telephone the agent is currently using. These can be also be made directly to the agent.
- **Name:** Calls to the Login ID display the name associated with the Login ID and not the name associated with the telephone.
- **Coverage:** When the agent is logged out, or when calls go to coverage because the agent is busy or does not answer, calls to the Login ID go to the coverage path associated with the agent and not the telephone. When an agent is logged out, calls go to the agent's busy coverage destination.
- **Restrictions:** Calls to the Login ID or from the agent use the restrictions associated with the agent and not the telephone.
- **Work Modes:** A single work mode button applies to all the skills assigned to the agent currently logged in. The Multiple Skills feature allows agents to log in to up to 60 skills simultaneously.
- **Message Waiting Lamp:** This lamp by default tracks the status of messages waiting for the logged in Expert Agent Selection Login ID rather than messages for the physical terminal. If desired, the Message Waiting Lamp can be programmed to track the physical terminal.
- **Auto-Answer:** With Expert Agent Selection, auto answer settings can be assigned to agents on the Agent Login ID form. An agent's auto answer setting will apply to the station where the agent logs in. If the auto answer setting for that station is different, the agent's setting overrides the station's setting.

Add or Remove Agent Skills

This feature allows an agent using Expert Agent Selection to add or remove skills. A skill is a numeric identifier that refers to a specific ability of an agent. For example, an agent who speaks English and Spanish could be assigned a language-speaking skill with an identifier of 20. The agent then adds skill 20

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

to his or her set of working skills. If a customer needs a Spanish speaking agent, the system routes the call to an agent with that skill. Each agent can have up to four active skills, and each skill is assigned a priority level.

Service Level Maximizer

This feature allows the administrator to set a defined percentage of calls answered in a set amount of time. When active, the software verifies that inbound calls are matched with agents in a way that makes sure that the administered service level is met.

Variables in Vectors

The vector variables are defined in a central variable administration table, but the values assigned to some types of variables can also be quickly changed by means of special vectors, VDNs, and feature access codes that are created for that purpose. Different types of variables are available to meet different types of call processing needs. Depending on the variable type, variables can use either call specific data, or fixed values that are identical for all calls. In either case, an administered variable can be reused in many vectors.

Vector Routing Tables

There are 100 Vector Routing Tables containing up to 100 entries per table that are used to store ANI/CLID or digits that you refer to in go to vector steps. ANI can be tested to see if it is either in or not-in the specified table.

Reason Codes

This feature allows agents to enter a numeric code that describes their reason for entering auxiliary work mode or for logging out of the system. Reason codes give call center managers detailed information about how agents spend their time. Enterprises can also use this data to develop more precise staffing forecasting models or use it with schedule adherence packages to see that agents are performing scheduled activities at the scheduled time.

Forced Agent Logout from After Call Work

This feature allows administrators to define a set amount of time that the enterprise believes is reasonable for an agent to be in the After Call Work mode and automatically log the agent out when the time is complete. The timeout period can be specified on a system wide basis and on a per agent basis.

Holiday Vectoring

This feature enables a set of commands that can be used to write vectors for calls to be routed on holidays or any days when special processing is required. The feature allows for branching and routing of calls based on information about special schedules. These special schedules are recorded in tables.

Service Hours Table Routing

Similar to Holiday Table Routing, Service Hours tables offer the ability to have different hours of operation for each day of the week with only one vector step, eliminating the need for a series of potentially complex go to if time of day vector steps. The tables can be defined to contain office working hours specifications used for testing in call vectors.

Location Preference Distribution

This feature provides the option attempt to connect an incoming ACD call to an Expert Agent Selection agent within the same location/network region as the ACD call's trunk facility. This reduces the quantity of incoming ACD calls because their trunk arrival destinations are distributed to agents across the interconnecting WAN or other facilities, allowing inter-node bandwidth to be used for other purposes. It

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

also improves operational networking costs by reducing the amount of intra-switch network traffic and improves audio quality.

Best Service Routing

This feature allows the communication server to compare specified skills, identify the skill that will provide the best service to a call, and deliver the call to that resource. If no agents are currently available in that skill, the call is queued. To respond to changing conditions and operate more efficiently, Best Service Routing monitors the status of the specified resources and adjusts call processing and routing as appropriate.

This feature is available in both single and multisite versions. Single site compares skills on the local communication server to find the best resource to service a call. The multisite extends this capability across a network of communication servers, comparing local skills, remote skills, or both, and routing calls to the resource that will provide the best service.

Single site Best Service Routing is a simple, logical extension of call vectoring. Like any other vector, vectors with Best Service Routing commands are assigned to one or more VDNs. The administrator uses vector commands to tell the communication server to compare, or consider, specific skills for each call that is processed in that particular vector. Throughout the comparison, the server remembers which resource is the best based on how best is defined. Best Service Routing vectors can deliver a call to the first available agent found, or they can consider all of the specified resources and deliver the call to the best skill. If no agents are available in any skill, the call is queued to the skill with the shortest adjusted expected wait time. For purposes of calculating the best resource in a call surplus situation, the feature allows the administrator to adjust the expected wait time calculation for any skill.

Forced Agent Logout by Clock Time

This feature provides the ability to automatically log out an Expert Agent Selection agent based on an administered time of day setting.

Route Calls to Agent by Skill Level

This feature enables additional control of how inbound ACD calls are routed to staffed agents by further qualifying agent selection based on skill level in addition to existing criteria. By using administered skill levels 1 to 16 as an additional criterion, the agent that will be routed to an ACD is no longer necessarily selected from the top of the skill queue. This allows, for example, the ability to indicate a preference to reserve the best agents for high value calls or critical conditions, or to route low value calls to agents with low skill levels.

Percent Allocation Routing

This feature provides a way to route incoming calls to different resources based on the percentage of calls to be distributed to each resource. Toll free inbound calls and other types of traffic can be allocated among outsourcers and internal resources on a percentage basis.

Interruptible Auxiliary Work

This feature offers improved utilization of call center resources for enterprises who wish to selectively override non-talk work modes. It provides a way to utilize staffed agents who are in Auxiliary Work mode for certain Reason Codes to handle incoming ACD calls when needed. Call centers gain additional flexibility in agent utilization by administering certain Auxiliary Work Reason Codes as interruptible for priority customers.

When a service level threshold is exceeded, agents in Auxiliary Work mode with an interruptible Reason Code are notified by a display message, flashing buttons, and an audible tone. Notification continues until the agent becomes available, logs off, or the service level threshold is no longer exceeded.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

The service level target is administered as a percentage of calls answered within a specified number of seconds. If, for example, 90% or more of calls are answered within 15 seconds, then the skill is meeting the service level target. If fewer than 90% of calls are answered within 15 seconds, then the skill is not meeting the service level target and interruptible agents in Auxiliary Work mode start getting interrupted.

Capacities:

- 120 skills per agent
- 30,000 VDNs
- 8,000 skills per ACD
- 8,000 policy routing tables
- 24,000 policy routing table routing points
- 8,000 vectors
- Maximum of 10,000 agents can be logged in simultaneously
- Maximum of 30,000 administered agent login IDs

Communication Manager provides robust PBX features, high reliability and scalability, and multi protocol support. It includes advanced mobility features, built in conference calling, contact center applications, and E911 capabilities. It provides user and system management functionality, application integration and extensibility, and enterprise communications networking. It can be deployed as either an Evolution Server or a Feature Server within the Avaya Aura® architecture.

5.3.0.2 Instant messaging/ Presence - Solutions that allow communication over the Internet that offers quick transmission of text-based messages from sender to receiver. In push mode between two or more people using personal computers or other devices, along with shared clients, instant messaging basically offers real-time direct written language-based online chat. Instant messaging may also provide video calling, file sharing, PC-to-PC voice calling and PC-to-regular phone calling.

Avaya Response:

Avaya Aura® is the flagship communications solution for next generation, people centric collaboration. It is based on a revolutionary SIP architecture that makes it possible to unify media, modes, networks, devices, applications, and real time, actionable presence across a common infrastructure. This creates an environment where users have on demand access to advanced collaboration services and applications that deliver enhanced customer access, improved employee efficiency, and lower total cost of ownership.

Avaya Aura® Presence Services is an integral component of the Avaya Aura® solution. It is a foundational element utilized by Avaya and third party applications to collect and distribute rich presence information and Instant Messaging capabilities throughout an enterprise and is included as an entitlement with both Avaya Aura® Standard Edition and Avaya Aura® Enterprise Edition.

Avaya Aura® Presence Services is available in two options:

- As software only, running on customer provided servers
- As a template that runs on Avaya Aura® System Platform, the Avaya virtualization technology, which requires an Avaya Common Server platform

Key Features

Avaya Aura® Presence Services provides the following key features:

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- **Robust, Aggregated Presence Information:** Presence information from telephony, desktop, and other applications is aggregated to provide a comprehensive view of user and device availability. As other presence sources are made available, even from third party sources in a heterogeneous IT environment, they can also feed status information to the system to round out the user's availability profile.
- **Multi protocol/Multi interface Support:** Both SIP for Instant Messaging and Presence Leveraging Extensions and XMPP protocols are supported, which allows for aggregation across a broad array of presence sources to enable a more comprehensive representation of the individual.
- **Optimized Performance:** The SIP server to server protocol is leveraged to optimize network performance for real time communications applications.
- **Scalability:** Scales to support all enterprise subscribers with a system throughput demanded of real time communications applications. Presence Services will scale to 10,000 subscribers per server with expansion, via multi server scaling, to 50,000 subscribers per enterprise network (assuming an average of 25 contacts per user and 25 Instant Messages per contact per hour).
- **Rich Presence:** Normalizes and composes rich user presence (such as location and device) for applications and devices.

Today's communications market is dynamic. Traditional delivery methods and behavior patterns have evolved over time as the population has become more mobile and services have become more personalized. In today's environment, enterprises are beginning to expect real time content delivered in a usable format across a multitude of device types.

Avaya Flare® Experience

The Avaya Flare® clients are collaboration applications that enable business users to quickly and easily manage their daily communications. The applications provide users access from their iPad device or Windows PC to voice, presence, instant messaging, email, contacts, and call history. The intuitive, rich set of multi mode capabilities is designed to redefine the communication experience in the business environment.

The Avaya Flare client features a central spotlight that highlights active or in progress communications. Initiating a communication session is as easy as moving a contact from a directory into the spotlight. The Avaya Flare client provides users with:

- An intuitive, user interface from which users can communicate in any mode.
- Drag and drop voice calling with the ability to separate from a call for sidebar interactions via voice, email, or instant messaging, and subsequently rejoin the call without interrupting the call in progress.
- A single, easy to use interface to view multiple contact directories, including personal and corporate contacts, a call history log, and instant messaging sessions. Users can flip through to find the person with whom they want to collaborate, see their availability, select the preferred mode of communication and launch the connection.

The following Avaya Flare client offers are available:

- Avaya Flare® Communicator for iPad Devices
- Avaya Flare® Experience for iPad Devices
- Avaya Flare® Communicator for Windows
- Avaya Flare® Experience for Windows

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Flare Communicator for iPad Devices

With the Avaya Flare Communicator for iPad Device, Avaya is delivering its innovative interface for real time communications to iPad device users. Avaya Flare Communicator for iPad Devices provides enterprise users with simple access to all the communication tools in a single interface. The solution extends the powerful Avaya Flare Experience directly to iPad users. A software only solution that can be easily downloaded (from the Apple App Store); it is the first step in extending the Avaya Flare Experience to non-Avaya devices.

Avaya Flare Communicator for iPad Devices enables you to log into your company's server and make and receive telephone calls from your telephone extension via your iPad device. The application on your iPad device, you can also send email messages and instant messages, access your call history, access your Avaya Aura® and local contacts, perform an Enterprise search, and manage your presence status.

By delivering the intuitive graphical design of Avaya Flare Experience spotlights, media menu, notification bar and contact cards; Avaya Flare Communicator for iPad Device provides a new level of collaboration for users.

Now your employees can use iPad devices for:

- Easy, ubiquitous access to the real time communications tools they rely on every day: phone, presence, Instant Messaging.
- Blending real time communications and business processes, such as mobile sales.
- Taking advantage of Wi-Fi and 3G connectivity for cost saving VoIP.

Avaya is putting all of these tools and capabilities into a single, unified enterprise workspace on iPad devices, delivering a seamless communications experience that is easy to use, convenient, and ready in real time to help you focus on the task at hand.

Avaya Flare Communicator for Windows

Avaya Flare Communicator for Windows enables you to log into your company's server and make and receive voice calls from your telephone extension via your PC. Using the Avaya Flare client, you can also send email messages and instant messages, access your call history, access your Avaya Aura® and Microsoft Outlook® contacts, perform an Enterprise search, and manage your presence status. Avaya Flare Communicator for Windows provides Enterprise users with simple access to all the communication tools in a single interface.

Avaya Flare Experience for iPad Devices and Windows

The Avaya Flare Experience is a groundbreaking, next generation workspace that delivers a uniquely compelling unified collaboration experience. Avaya Flare Experience for iPad Devices and Windows enables you to log into your company's server and make and receive telephone calls from your telephone extension via your iPad device or PC. From the application on your iPad device or PC, you can also send email messages and instant messages, access your call history, access your Avaya Aura® and local contacts, perform an Enterprise search, and manage your presence status. Avaya Flare Experience for iPad Devices and Windows provides enterprise users with simple access to all the communication tools in a single interface.

Avaya Flare Experience for iPad Devices and Windows provides automatic integration with Avaya Aura® Conferencing 7.0. When you log in to a MeetMe conference on Conferencing 7.0 with Avaya Flare Experience for iPad Devices or PC, you can:

- Access the Web Collaboration features by tapping the Collaboration button in the main window. (If you are the moderator or have presenter privileges, you can host the web collaboration session).

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- View a graphical representation of the conference and its participants.
- Manage the conference using the built in moderator controls (when you are logged in as the moderator).

With Conferencing 7.0, you can start Adhoc conferences with Avaya Flare Experience for iPad Devices or Windows. You can also merge Adhoc conferences with MeetMe conferences. You must have access to your company's network to use Avaya Flare Experience for iPad Devices and Windows.

The Avaya Flare Experience is a one stop collaboration tool. Plan a conference by sending out invites. Or, start an impromptu conference using the contact list. During a conference, you have the ability to manage built in controls like the following:

- Access contacts, enterprise directories, and preferences via the contact fan.
- View a graphical representation of participants and speakers.
- Press “Collaborate” to change a session from audio to web.
- Upload documents to the library, an online repository makes it fast.
- Share the desktop, applications, or whiteboard.
- Take notes and minutes.

The Avaya Flare Experience provides all the functionality of Avaya Conferencing, and leverages SIP-based Avaya Aura® communications architecture.

5.3.0.3 Unified messaging - Integration of different electronic messaging and communications media (e-mail, SMS, Fax, voicemail, video messaging, etc.) technologies into a single interface, accessible from a variety of different devices.

- Ability to access and manage voice messages in a variety of ways, using email inbox, Web browser, desktop client, VoIP phone, or mobile phone
- Visual Voicemail Support (Optional)

Avaya Response:

Avaya Aura® Messaging, is an all encompassing approach to Unified Messaging Solutions.

It doesn’t matter if employees are working from an office desk, a virtual office, a hotel room, or from a wireless connection in an airport, the speed of business communication requires them to be able to remain productive as they communicate with customers and other employees through a variety of devices. To accommodate this one-number, always available functionality, Avaya Aura® Messaging enables telephone, graphical, and speech user interfaces. It is both a powerful IP-based and standards-based unified messaging platform designed to scale for small to large local, regional, and global sites.

Messaging is a next generation solution for unified messaging that combines our expertise in new and existing technology with industry standards to flexibly integrate within the Avaya Aura® architecture in Linux-based server environments.

Avaya Aura® Messaging – Two Server Models

Our solution is a scalable solution ranging from an easy to deploy single server to a fully scalable front end/back end configuration with dedicated application servers and storage servers to support higher numbers of users. This flexibility covers single site, multisite, centralized, and distributed configurations to match existing network architecture. To satisfy these current and growth needs, two server models are available: Standard Messaging Server and High Storage Capacity Messaging Server. Regardless of

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

which is deployed, both models run on the same Linux server, run as a single virtual machine, and run on top of the Avaya System Platform.

- A Standard Messaging Server can serve as a single server (combining application and storage roles), an application only server, or as a storage only server.
- A High Storage Capacity Messaging Server can serve as a storage only server able to support a large number of mailboxes.

A major differentiator for Messaging is the flexibility as to where messages are stored on a per user basis. Support for multiple message stores includes using a standalone message store and integration with Microsoft Exchange email systems as the message store.

Multi Media User Mailboxes

Multimedia mailboxes provide users many ways to access and act upon messages.

- Users can record, activate, and re-record updates for nine personal mailbox greetings. If supported by the switch. Messaging can play different personal greetings for all conditions, for busy and no answer conditions, and for an extended absence. If a greeting isn't recorded, a standard greeting is played.
- Voice messages may be addressed via the telephone user interface or via speech. They can be sent to single address or a combination of multiple addresses by extension or name, and to personal and system distribution lists that can include fax and email addresses.
- Delivery markings include urgent, private, future delivery, and message confirmation.
- Message review controls include new message count of unread and read messages, envelope information, speed, volume, forward/ backward, and return to the beginning. End of listening message controls include save, delete, replay, reply, immediately call, and forward with or without additional comments. Standard and rapid prompts are at the user's control.
- Message notification can be to desk phone, cell phone, offsite location, and pager using message waiting indication, Reach Me with call forwarding to up to three numbers, and Notify Me, which provides text message notifications.
- Notification of system broadcast messages via a login message.
- Interoperability with a customer provided, third party fax server to provide fax messaging capabilities.

Industry Standards

Messaging is designed to operate with industry open standards. These include SIP, IMAP4, SMTP/MIME, LDAP, and G.711.

Reliability and Availability

Messaging solutions enhance reliability and availability through system diagnostics, high availability design, and N+1 configurations. System diagnostics transparently run 24 hour a day, creating multiple monitoring logs, history, and system reports with printing and exporting capabilities. Error and alarming capabilities help administrators stay abreast of any potential issues.

The architecture provides a variety of high availability/disaster recovery options. These range from an N+1 configuration for application servers, to locally survivable application servers that can stay fully operational with locally cached messages and greetings, to geographically redundant options for application servers.

Switch Integrations

The most robust solution is a fully integrated voice messaging system that answers each incoming telephone call with information taken directly from the host switch. As such, Messaging connects to the Avaya Aura® Communication Manager switch using the SIP protocol to provide efficient IP trunking that helps reduce hardware and associated costs when implementing and maintaining the two systems. It also interoperates with other Avaya products, including Communication Server 1000, Avaya Aura® Session Manager, and Session Enablement Services. Additionally, interoperability with a wide range of third party PBX systems is available via SIP gateways.

Avaya Aura® Communication Manager Messaging

An embedded multimedia messaging application residing on the same server as Communication Manager.

Today's messaging requires more than just sending and receiving separate voice mail, email, and faxes. Today's tech savvy users require a multimedia messaging solution, one that can enable easy access to voice, fax, text, and file attachments from the user's choice of telephone or computer interface, with the ability to mix those media types within a single message. Communication Manager Messaging provides this exact functionality for a small enterprise, as well as smaller locations of a larger enterprise. This architecture satisfies the short term needs of a smaller location while supporting the evolutionary movement of messaging toward a more comprehensive unified communication solution.

Communication Manager Messaging is an embedded application residing on the same server as Communication Manager. As such, it utilizes the same basic platform functionalities, combining many administrative duties into a single task. This integration uses either H.323 and/or QSIG over an IP trunk. A cost savings advantage is the license file generated for Communication Manager includes the license requirements for the messaging application. No additional licensing is required.

The number of ports and users is defined based on the Avaya Media Servers utilized, scaling from 12 to 250 ports, and 450 to 6,000 users.

Avaya Modular Messaging — Multi Server

An all encompassing approach to Integrated Unified Messaging Solutions.

It doesn't matter if your employees are working from an office desk, a virtual office, a hotel room, or from a wireless connection in an airport, the speed of business communication requires them to be able to remain productive as they communicate with customers and other employees through a variety of devices. To accommodate this one number, always available functionality, Modular Messaging enables telephone, graphical, and speech user interfaces. For an integrated approach, client applications provide the capability to give access to these message types from a separate inbox folder on the email client server. This solution provides unified messaging capabilities (the email client holds all messages types) but maintains separate storage units.

Modular Messaging is both a powerful IP-based and standards based unified messaging platform designed to scale for small to large local, regional, and global sites. The Avaya Message Storage Server configurations can support up to 40,000 mailboxes, and up to 5,400 hours of storage of voice, fax, and text messages. Up to 5 Modular Messaging Application Servers are supported in a voice mail domain, which when networked together, support up to 250,000 users.

Modular Messaging is composed of two core components: A Message Storage Server and a Messaging Application Server

The Avaya Message Storage Server provides the following functionality:

- Private user mailboxes that store multimedia messages, recorded greetings, and other items of user data

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Message delivery to local mailboxes and message networking for delivery to remote mailboxes, including remote directory synchronizations and the use of distribution lists
- Desktop messaging clients
- User and system administration, including backup and restore of user mailboxes

The Avaya Messaging Application Server communicates with the Message Storage Server over a private dedicated IP link to provide front end functionality that includes:

- Four to 288 telephony ports, 12 channels of multilingual text-to-speech, switch integrations
- Multilingual touchtone user interfaces
- System automated attendant and enhanced Caller Applications
- Voice encoding and decoding
- Fax receipt and send
- Notification of new messages
- Tracing Service diagnostics and reporting
- Web Subscriber Options service

As port requirements increase, expansion is as easy as adding up to four additional Messaging Application Servers to the voice mail domain, without the need to replace existing equipment. The Messaging Application Servers are available as a software only option or as part of a turnkey solution using Avaya servers. One Message Storage Server supports a single voice mail domain.

To cost efficiently serve users at multiple locations, Multisite Support provides customers the flexibility of using a single Modular Messaging system. Using this configuration, the Message Application Servers in a single Voice Mail Domain can communicate with multiple switches, with different dial plans, in different locations. This enables the centralization of all messaging into a single data center with the switch residing in a different physical location. It also supports differing dial plans so that users can match extension numbers with their mailbox numbers.

5.3.0.4 Contact Center - A computer-based system that provides call and contact routing for high-volume telephony transactions, with specialist answering “agent” stations and a sophisticated real-time contact management system. The definition includes all contact center systems that provide inbound contact handling capabilities and automatic contact distribution, combined with a high degree of sophistication in terms of dynamic contact traffic management.

Avaya Response:

The right solutions can make all the difference in improving the ongoing productivity in a call center. Effective call center solutions allow agents to respond rapidly to customer demands. They provide for optimum load balancing based upon the need of the call center, such as both call surplus (more calls than agents to handle them) and agent surplus (more agents than calls) conditions. They make the most of agent availability, skills, and experience and integrate readily with other productivity tools in a multi vendor environment. Finally, and most importantly, superior call center solutions lower your Total Cost of Ownership and increase Return on Investment.

Avaya Aura® Call Center software provides the framework for a total customer service solution. The Call Center suite of call routing software is an ACD application that maximizes routing and resource selection, allowing agents to handle calls more effectively and improving overall productivity. It offers conditional (if/then) call routing, using context based inputs and versatile selection capabilities. Managers can choose whether inbound calls connect with the least busy agent, the first available agent, or the one with skills

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

that best match the customer's needs. Virtual call routing allows businesses with multiple sites to maximize resource utilization across all locations.

Call Center software enables business defined routing strategies and leverages all customer knowledge across the enterprise to make each customer interaction more effective. It is also highly versatile, spanning all communication infrastructures, from traditional circuit switched to H.323, and now SIP, allowing businesses to protect existing hardware and software investments. Today, the Call Center offers more capabilities and capacity than ever before.

Capable of supporting up to 10,000 agents, the Call Center is well suited for companies like enterprises with large advanced call centers as well as smaller less sophisticated call centers. Enterprises can rely on call center technology from Avaya to help support success in today's increasingly competitive economy.

Avaya is a global leader in business communications systems. The company provides unified communications, contact centers, and related services directly and through its channel partners to leading businesses and organizations around the world. Enterprises of all sizes depend on Avaya for state of the art communications that improve efficiency, collaboration, customer service and competitiveness.

Avaya Aura® Call Center Elite

Avaya Aura® Call Center Elite features Avaya Expert Agent Selection, the Avaya name for skills based routing, and a complete array of advanced call vectoring (conditional routing) capabilities. The software includes Avaya Virtual Routing, which provides effective load balancing across multiple call center sites. It also includes IP Agent Shared Control, which provides a softphone desktop for agents and allows all agents to be IP enabled.

ACD

ACD is an Avaya Aura® Communication Manager feature that processes high volume incoming, outgoing, and internal calls and then distributes them to groups of extensions called hunt groups or splits. In Call Center Elite, hunt groups or splits are referred to as skills. Calls to a specific skill are automatically distributed among the agents that possess the desired skill. Calls queue to the skill until an agent is available. ACD allows the administrator to create an efficient call management environment. The administrator can add or remove skills from the system, add or remove announcements, add or remove agents, call treatments assigned to a skill, add trunk groups, and route calls to the appropriate skills. The administrator can also specify ACD measurement criteria to provide reports on ACD efficiency.

Call Center Elite can allow your staffed agent to be active in as many as 120 assigned skills. With Expert Agent Selection active, you can administer agents to accept delivery of inbound ACD calls under call surplus conditions using Greatest Need, Service Level Maximizer, or Skill Level with support for up to 16 different levels per skill.

You can set the Call Center Elite software to maintain a separate queue for available agents in each skill ensuring that when agents answer an ACD call they are only removed from the available agent queue for the skill for which that call arrived. Or, you can create one system wide combined queue for all staffed agents, ensuring that staffed agents are removed from the queue whenever they answer a call for any of their assigned skills.

Logical Agent

This feature is a capability of the Expert Agent Selection feature. With it, an agent's ACD Login ID is associated with a particular telephone only when the agent actually logs in at that telephone. When the agent logs off, the association of an agent's ACD Login ID with a particular telephone is removed. The feature allows ACD agents to log into any telephone on the system regardless of type, designation, or location. This can be very useful when additional ACD positions are needed on short notice or when a disaster strikes. All agents in the system can be designated as Logical Agents if desired.

In addition to skills, the following capabilities are associated with agents' login IDs:

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Calls: Calls to the Login ID reach the agent independent of the telephone the agent is currently using. These can be also be calls made directly to the agent.
- Name: Calls to the Login ID display the name associated with the Login ID and not the name associated with the telephone.
- Coverage: When the agent is logged out, or when calls go to coverage because the agent is busy or does not answer, calls to the Login ID go to the coverage path associated with the agent and not the telephone. When an agent is logged out, calls go to the agent's busy coverage destination.
- Restrictions: Calls to the Login ID or from the agent use the restrictions associated with the agent and not the telephone.
- Work Modes: A single work mode button applies to all the skills assigned to the agent currently logged in. The Multiple Skills feature allows agents to log in to up to 60 skills simultaneously.
- Message Waiting Lamp: This lamp by default tracks the status of messages waiting for the logged in Expert Agent Selection Login ID rather than messages for the physical terminal. If desired, the Message Waiting Lamp can be programmed to track the physical terminal.
- Auto-Answer: With Expert Agent Selection, auto answer settings can be assigned to agents on the Agent Login ID form. An agent's auto answer setting will apply to the station where the agent logs in. If the auto answer setting for that station is different, the agent's setting overrides the station's setting.

Capacities

- 120 skills per agent
- 30,000 VDNs
- 8,000 skills per ACD
- 8,000 policy routing tables
- 24,000 policy routing table routing points
- 8,000 vectors
- Maximum of 10,000 agents can be logged in simultaneously
- Maximum of 30,000 administered agent login IDs

Avaya Aura® Call Center Elite Multichannel

The Avaya Aura® Call Center Elite Multichannel feature provides a solution designed to support enterprises in being more competitive in the global marketplace with extensive, proven CTI and multichannel capabilities that translate into real results for your contact center.

Call Center Elite Multichannel is designed to meet the requirements of today's midsized contact centers (with 20 to 400 concurrent users/agents) that have traditionally been considered expensive and time consuming to implement. This solution can be implemented in days, at an investment level that even the most budget conscious of managers can appreciate.

This feature is a family of desktop productivity tools and components designed to enhance your midsize contact center. It provides a set of CTI and multichannel capabilities that you can use and build upon. Call Center Elite Multichannel is a software application that runs on Microsoft Windows operating systems enabling control of telephone calls (both incoming and outgoing), email, web chat, and instant messaging (MSN, AOL, XMPP and SMS) from a personal computer.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Multimedia technology in Call Center Elite Multichannel means that email, mobile SMS text messaging, and web-based customer inquiries are blended with inbound telephone calls. Customers enjoy the same benefits of priority queuing and distribution to agents with relevant skills and knowledge no matter what type of media they use.

This feature leverages existing investments because it is designed to enhance Avaya contact centers by integrating the powerful capabilities of Communication Manager and Call Center solutions with customer data, applications, and processes. Call Center Elite Multichannel has been developed specifically for Avaya contact centers using Avaya Application Enablement Services as the CTI server platform and Microsoft Windows as the client Operating System. It is easy to implement and simple to use and maintain. The Agent Rules and Routing Rules wizards can eliminate software development for system integration in many applications.

Call Center Elite Multichannel has been designed with SOA in mind and uses and includes application design support for Web Services technologies such as SOAP and XML. Included is support for WSDL for interface definition and SOAP over XML for Web Services integration.

This feature also solves the costly proactive customer contact issues, from callbacks to targeted campaigns, using simple but effective outbound dialing with automated and agent initiated Preview Contact.

What's more, this feature manages the collection, queuing, and delivery of voice and non-voice work items such as email and chat sessions to an appropriately skilled agent. The solution utilizes the powerful routing algorithms resident in Communication Manager to determine the right resource for the right interaction.

Avaya Interaction Center

Meeting customer demand for consistently high-quality service across all communication channels, voice, email, instant messaging, mobile SMS (text messaging), video, delivers true business value through increased customer satisfaction, higher rates of retention, and enhanced revenue. Avaya Interaction Center helps you achieve these goals because it simplifies communication channel management and enables you to maximize your existing investment in people and technology.

With Interaction Center, your business can deliver outstanding sales, service, and relationship management even if customers use several different communication media to complete a single transaction. Designed with pre-built support and integration with today's leading switching and contact management technologies, Interaction Center helps businesses apply customer segmentation strategies as well as leverage enterprise business data to intelligently route interactions to the best available resources within your business regardless of location.

With Avaya, your contact center can accommodate today's ever expanding communication needs and help you move to a higher plane of customer satisfaction and agent efficiency in addition to a stronger bottom line. Avaya is dedicated to helping businesses become more customer driven and to helping your business deliver first-rate service consistently, no matter how your customers choose to make contact.

Key Benefits

- Deliver consistent, personalized cross channel customer care voice, email, web, and video - based on predefined segmentation policies and service levels
- Optimize efficiency and first contact resolution by applying segmentation that routes interactions to the best available resource
- Improve agent productivity through screen pop and unified agent desktops you design to meet your unique service and business requirements
- Reduce development time, costs, and risk by using pre-built and pre-tested applications and systems integration

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Minimize cost of ownership with accelerated installation and configuration, pre-built agent clients, and pre-tested integration to applications and systems

Universal Routing and Queuing

Avaya Interaction Center manages all interactions through a universal, media independent contact engine that allows voice, email, web chat, and other media to be managed based on common enterprise segmentation and business rules. The contact engine acts a single point of control and intelligence for all defined interactions. This enables organizations to create and apply routing strategies and business rules across the entire agent pool and all channels simultaneously, instead of managing each channel separately, regardless of the physical location of agents and enterprise resources.

The contact engine coordinates and personalizes routing decisions while collecting interaction and transactional customer information in a common Customer Interaction Repository. Data capture and coordination is accomplished via a shared data object called an Electronic Data Unit. As workflows are executed, the contact engine uses the electronic data unit as input and then contributes more data to it based on customer profile and other enterprise data. The electronic data unit is created for each interaction to record the cradle to grave history of that interaction and to allow each application and employee that interacts with the customer to access the shared data and contribute to it. This allows your contact center to leverage the latest customer interaction and transaction history to make the best routing decision for each and every customer contact.

Through Electronic Data Unit technology, Interaction Center tracks and records every detail of every interaction, which a business can then use to improve future routing decisions, to update customer profiles, and to generate additional sales. The Electronic Data Unit allows all applications and agents to know what has occurred so far in each customer transaction independent of the media through which the interactions occurred. Previous customer contact history and business data collected via Electronic Data Units' is archived in real time to a common, centralized Customer Interaction Repository. The Customer Interaction Repository allows a contact center operation to provide an integrated, consistent view of a customer and contact center activities, real time and historical, across all communication media, and across all contact center sites and locations.

Interaction Center includes Avaya Business Advocate which can be optionally configured to manage agent selection, staff resources, and customer service levels across all channels. Business Advocate is a set of patented algorithms that evaluate real time conditions and distribute work items to the right agent based on agents available, agent skills, service level objectives, and expected wait times.

Avaya Proactive Contact

Avaya Proactive Contact can enable enterprises to differentiate products and branding through powerful outbound and blended communications capabilities. Targeted communications can be initiated with customers to meet quickly changing requirements. This will allow enterprises to build loyalty with improved customer care and generate more revenue with dynamic marketing campaigns.

The Proactive Contact system portfolio can make enterprises more efficient by optimizing the time of the most expensive resources and skilled agents. Proactive Contact solutions provide excellence in automated dialing, list management and connectivity across networks to optimize every campaign. The solution allows your agents to reach more customers, faster, and more profitably; through the use of automated technology and applications for outbound communications solutions. In addition, Proactive Contact gives your organization the ability to proactively reach out to your customers with timely information they need and appreciate, helping you to build stronger relationships.

Proactive Contact is a suite of software and hardware that delivers efficiency and effectiveness to the call center, as it optimally manages calls to and from customers. Whether a calling mission requires inbound, outbound or blended solutions, Proactive Contact provides unparalleled technology to meet the

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

challenges faced by your business. It contains superior call pacing algorithms and industry leading call detection, resulting in increased agent productivity and better return on investment.

Key features of Avaya Proactive Contact

The set of features and technology used in Proactive Contact Systems can help an enterprise gain a competitive advantage when successfully integrated with their business processes. These features include:

- Managed/preview and predictive outbound call handling
- Three fully featured blend options (outbound and inbound integration)
- Industry leading voice detection technology
- Powerful supervisor application
- Robust campaign design and scripting
- Advanced monitoring and reporting capabilities
- Unified open client/server architecture
- Scalable features and applications
- Open standards based development tools
- End to end security
- Highly Sophisticated dialing algorithm

Avaya Aura® Contact Center

Avaya Aura® Contact Center is a context sensitive, collaborative, voice and multimedia customer contact solution. It allows enterprises to anticipate, automate, and accelerate customer interactions. The solution routes up to six simultaneous multimedia contacts to the most appropriate resource through a unified agent interface.

By creating a complete view of the customer and the context of their interaction, the solution allows organizations to manage the customer experience in a way that delivers a superior level of engagement. Contact Center facilitates reaching out to customers proactively. It combines historic and real time contextual information about a customer to improve the quality of interactions. It optimizes agent utilization and productivity. It enhances supervisor performance to deliver superior customer experience and drive sustainable business growth.

We can deliver the following benefits:

- High levels of service to customers with powerful new contact center communication channels, such as web chat, SMS text, instant messaging, social media, and email.
- An integrated, collaborative, multimedia, contact center solution, Contact Center includes reporting, preview and progressive outbound calling, contact recording and quality monitoring, workforce management, as well as innovative features such as the ability to integrate with social media. It reduces the need for customization and utilization of proprietary, CTI based APIs required by competitors. The out of the box multichannel agent desktop application reduces cost, complexity, and improves time to market.
- As a standards based solution, leveraging SIP, SOA, and Web Services, Contact Center attracts a larger ecosystem of application developers who can develop and deploy applications to suit the specific needs of businesses.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- As proprietary CTI links are replaced by SIP-based integration, businesses have the potential to standardize their contact center applications on a multivendor infrastructure.
- SIP-based collaboration and conferencing for context persistence is more current, flexible, simple, and a lot less expensive to develop and maintain compared to the obsolete model of CTI overlays of networks, applications, and protocols.
  - Contact Center supports next generation, SIP based deployment options on Communication Manager and Session Manager, as well as Avaya Communication Server 1000 integration through the Application Meridian Link. A software only application that runs on commercial off-the-shelf servers, Contact Center is the ideal solution for customers who need the flexibility of an open, reliable multichannel solution.

Avaya IQ

Avaya IQ is a reporting and analytics platform that consolidates real time data from Avaya customer service solutions and enterprise business resources to deliver reports that relate activity to results.

Key Features and Benefits

The following key features and benefits are part of the Avaya IQ reporting and analytics solution:

- Single View of the Customer Experience: Avaya IQ integrates and consolidates performance and customer data from across the contact center and business and retains all detail data, providing the ability to drill down or roll up important details that define both agent activities and the impact on the customer experience. You can select hypertext links within summary reports to view the detail data.
- Avaya IQ provides consistent reporting across Avaya contact center products. The detail data generated by multiple products is normalized by Avaya IQ and stored in the Avaya IQ database. All summary data is created from the detail data.
- Unified View of Blended Agent Performance: Avaya IQ creates a unified view of blended inbound voice call data from Avaya Call Center Software with outbound Proactive Contact information. Managers and supervisors have a unified rationalized view of agent and operational performance against critical key performance indicators.
- Real Time Reports: Avaya IQ Performance Center is a Web-based interface within Avaya IQ designed to view real time contact center status. You can create activities to group real time reports that share common inputs for effective monitoring of the status and performance of your agents and queues. By grouping reports that share common inputs, you see that the data in one report directly correlates to the data in all other reports within an activity. Also, the data for all reports in an activity is updated at the same refresh rate, and the refresh rate can be set to as often as every three seconds.
- Agent Behavior Reporting: Includes customizable reports that highlight agent behavior to which supervisors can immediately react versus culling through tables of data looking for discrepancies. Avaya IQ speeds analysis and resolution of problem agent behavior and allows supervisors to clearly understand the impact on the customer experience.
- Out of the Box Reporting and Analytics: Out of the box standard reports and analytics, such as cross tab reports, give a relational view of performance indicators. This facilitates trending or early detection of customer opportunity.
- Web Reports: Avaya IQ is a web-based thin client that enables reports to be easily shared across the business. Reports and analysis can be accessed from anywhere, posted online, distributed via email distribution lists, or individually emailed for the recipient to view, print or save as required.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Reduces or eliminates reporting administration and simplifies the ability to share the customer experience and customer service information with key stakeholders and decision makers across the business.
- Time Zone Reporting: Supports the display of data in the time zone of choice for the report user. Distributed contact centers can see a rolled-up view using a corporate time zone or a local time zone view.
- Distributed contact center supervisors and managers are able to view reports local to their site, improving their analysis and response. Businesses benefit from a simpler, adaptable reporting and analytics framework that serves everyone's needs.

Avaya Call Management System High Availability

The primary purpose of the Avaya Call Management System High Availability option is to provide an uninterrupted data stream between the communication server and the Call Management System. With High Availability, two Call Management System servers are connected to one communication server, thereby eliminating the traditional single point of failure between the Call Management System and the communication server.

Both Call Management System servers collect data independently from the communication server. If either server fails, loses connection to the communication server, or must be brought down for maintenance, the alternate server can carry the entire Call Management System activity load.

The Avaya Services organization offers a package that automates the synchronization between the two Call Management System servers. The administration synchronization offer reduces the amount of time needed to maintain the High Availability servers and is required for most installations. As an alternative to the administration synchronization offer, the High Availability option relies heavily on manual data synchronization between the two Call Management System servers, as well as on manual administration synchronization.

Server Switch Over After a Failure Event

If continuous access to your Call Management System data is required, High Availability systems allow for the redirection of LAN traffic related to Call Management System clients and peripheral devices from the primary server to the secondary server. Switch over from the primary server to the secondary server can be performed when the primary server experiences a major failure event. However, a High Availability switch over should be performed only when the anticipated down time for the primary server is expected to be significant.

Each call center network is configured according to its own unique specifications. Therefore, each High Availability customer must develop their own customized criteria and plans for server switch over events.

The Call Management System High Availability option allows the following server switch over options:

- No switch over: If you do not require continuous access to your Call Management System data, you can elect not to switch over to the secondary server after the primary server experiences a major failure event. When the primary server goes down, uninterrupted collection of call data will continue on the secondary server, but you may not be able to access that data until the primary server is restored.
- Manual server switch over: If you require uninterrupted access to Call Management System data, server switch over can be performed manually.

Dual ACD links

Duplicate hardware is a key component of the High Availability system. The function of the duplicate hardware is to eliminate a single point of failure in order to prevent data loss due to hardware failures.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

The dual ACD link feature addresses ACD link failures and builds on the increased ACD link reliability provided by TCP/IP.

A Control LAN circuit pack or an Ethernet port provides TCP/IP connectivity between the communication server and the Call Management System server. Each ACD link requires a separate Control LAN circuit pack or Ethernet port which supports different network routes to eliminate as many single points of failure as possible.

The ACD Call Processing software sends duplicate data to both Call Management System servers simultaneously. Thus, both Call Management System servers will collect identical real-time, historical, and call record data. Furthermore, both Call Management System servers are able to perform call center and agent administration, and the results are communicated from the communication server back to both Call Management System servers. However, we strongly recommend performing administrative functions at only the primary Call Management System server.

An idealized schematic of the network links between each of the dual ACD Control LAN cards on an Avaya Media Gateway to the communication server and their respective Call Management System High Availability servers is shown in the following diagram.

Two Call Management System servers operating in tandem provides data redundancy.

Avaya Visual Vectors – A Graphical Routing and Administration Option

Avaya Visual Vectors can be used with the Avaya Call Management System to provide a graphical routing and administration interface. With Avaya Visual Vectors you'll be able to build even the most complex call-handling paths very quickly and efficiently. Instead of working with traditional vector routing tables, you'll be creating a graphical map, a visual representation of your call flow, with familiar icons and graphics.

The screen provides a palette of available functions and steps that are grouped in logical sets. To build your call vector, you simply drag the desired step or function into the appropriate place on the vector display grid. To help you build the vector correctly and logically, the software automatically prompts you to complete the logic of each step. If you add a decision or test type step, for example, the software will automatically create two or more branch paths for you, which must be completed for the vector to be valid.

Comments can be included with vector steps. For example, the text of an announcement can be input as a comment for the announcement step. Comments can be displayed for all steps, or can be viewed for a specific step by moving the cursor over the step icon. Free floating comments can also be pasted onto the vector display grid, which can be useful when explaining the vectors to others, or simply as development notes.

Avaya Operational Analyst

Delivering a superior experience and making the most of your contact center investments requires a comprehensive and actionable view of overall business performance and operational status. To stay on top, managers and analysts require real time reporting tools that simplify data collection and speed problem solving and decision making.

Avaya Operational Analyst helps you achieve a definitive 360 degree view of customer interactions and your contact center performance. Consolidated data collection, centralized storage of multichannel (voice, video, email, SMS, Web chat, and VoIP) customer interaction data, and prepackaged, extensible reporting and analytics packages all make it easier for you to take action to maximize operations effectiveness and efficiency.

Operational Analyst consists of an open, multisite architecture, integrated Customer Interaction Repository, and prepackaged reports to support real time monitoring and analysis. The open, highly scalable multisite architecture consolidates historical data for all Avaya Interaction Center and

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Communication Manager based systems in real time. With multivendor Automatic Call Distribution reporting, your analysis can include data from both Avaya and other ACD vendors. A centralized Report Data Server simplifies and speeds analysis and decision making by aggregating and consolidating contact center data in real-time across systems and physical locations.

The Customer Interaction Repository is a common archive of all customer data from multichannel interactions executed across Interaction Center as well as voice call tracking via Avaya Call Management Systems. With the flexibility to import Call Management System External Call History data, including summary interval data, you can create year-over-year analyses and derive even greater value from your information. Integrated database management tools allow you to choose what data is stored, how long to store it, and which customizations will maximize ease of use and business benefit. The repository is also ODBC/JDBC-compliant to extend reporting capabilities to any compliant business analytics or reporting software tool.

Operational Analyst Reporting Package Options:

Operational Reports Package: Basic Reporting Package Designed for supervisors and managers

- Tracking and managing daily contact center performance
- Real time and Historical reports
- Agent status, service levels, service queues
- Tabular Reports Wizard for ad-hoc real-time reports

Analytical Reports Package: Advanced Reporting Package Designed for managers and analysts

- Tracking of key performance indicators and compare trends to targets
- Pre-defined cubes, analytical reports, queries for historical trending and drill-down
- Ability to create custom reports and calculations, perform ad-hoc queries
- Business Value Reporting for integration of third party data

Avaya Basic Call Management System

Basic Call Management System is a fully integrated reporting feature of Communication Manager, and is included with every Communication Manager system at no additional charge. No additional hardware is required to support the feature. It provides basic real time reporting and historical text based reporting for small to midsize call centers without the need to acquire and maintain external storage devices and adjunct processors.

This solution provides real time and historical reports which will help you manage individual agents, ACD skills or splits, and trunk groups. Real time reports are updated approximately every 30 seconds. Users can immediately update the information on the screen by pressing the UPDATE key. Historical data is stored by hour or half hour for 25 time intervals, including the current time interval. Daily summary data is also calculated and stored for seven days.

The reports can be displayed, printed, or both. The reports can be accessed and displayed by the ACD administrator from a system administration and management interface such as Avaya Site Administration. Reports can be printed on demand or on a scheduled basis. Using Site Administration, the system reports of ACD statistics can be saved to a file on a PC and can be transferred from the PC to a Local Area Network server.

Basic Call Management System offers three standard real time and eight standard historical reports, including information on agents, skills or splits, and trunks. With the Call Vectoring option active, reports are also available for VDNs.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Aura® Workforce Optimization

Avaya Aura® Workforce Optimization is an integrated solution that enables the enterprise to have the right workforce with right skills doing the right things and doing them well to achieve corporate objectives. The challenges of the current economy are forcing enterprises to rethink their approach to customer service as customer retention becomes a key focus area. Enterprises must align contact center operations to new corporate objectives while keeping costs low. The applications encourage businesses to use their contact center strategically, rather than just as a mechanism to field customer calls. Furthermore, businesses can gain a deeper understanding of customer trends and balance efficiency with effectiveness to create an optimized customer experience.

The solution includes the following components: Contact Recording, Quality Monitoring, eLearning, Workforce Management, Speech and Desktop Analytics, and Customer Feedback. Not only are these components converged, but it unifies them as well so that you benefit from reduced costs of ownership that would result from administering disparate systems, as well as all the benefits that increase your return on investment in our solution.

The solution can improve or solve the following issues many enterprises face:

- Processes: Manual, time consuming; performed in silos; focused on internal requirements instead of customer convenience
- Information: Housed in multiple (and sometimes unconnected) systems; difficult to access, compile, and interpret
- Collaboration: Sporadic (or no) communication among functional groups; turf wars; little awareness of what other departments do or how they affect the customer and company goals
- People: Employee churn, lack of consistent training, multiple shifts, sites, and communication channels equal diminished service

We can deliver the following benefits:

- A solution unique to Avaya
- Avaya single vendor sourced, installed, and maintained
- Native integration with Avaya Unified Communications, Performance Center, Avaya Aura®, Avaya one-X® Agent, and Proactive Contact
- Part of the DNA of Next Generation Contact Center

Workforce Optimization helps businesses balance efficiency and effectiveness by utilizing the contact center strategically rather than just as an organization that fields calls. Not only does it give businesses a better understanding of customer satisfaction and dissatisfaction, it offers intelligence that allows the business to operate more efficiently. Processes that were cumbersome and caused dissatisfaction can be easily identified and modified. Agents who are not getting the proper training or assisting customers appropriately can be identified and coached. The solution provides businesses with a deeper and more meaningful look at customer interactions.

The solution unifies Contact Recording, Quality Monitoring, eLearning, Workforce Management, Speech and Desktop Analytics, and Customer Feedback under one platform that provides a single user interface and centralized system administration and reporting. With it, your contact center and back office operations can capture, share, and act on information from across the enterprise. As a result, you can make better decisions faster, and benefit from a single, coordinated source of support, service, and maintenance with a lower total cost of ownership.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Aura® Experience Portal

Avaya Aura® Experience Portal delivers a new model for customer experience orchestration that helps you improve customer loyalty, reduce costs, and drive growth. Take your customer experience to a new level. Employ the latest automated customer care best practices and technologies to deliver a superior customer experience.

In today's socially networked world, organizations know they must meet customers on their own terms to keep them not just happy but more than satisfied. It is critical to be proactive about managing your customer's end to end experience. Yet, achieving that goal can be an overwhelming task. How do you maintain a personal relationship with potentially millions of people across thousands of interactions and transactions, across all devices and media?

The latest innovations in contact center and context based communications have ushered in a new era of customer collaboration, where dynamic real time orchestration of every customer's interaction, across all modes and media, is now possible. Experience Portal is the Avaya latest generation of our multiple award winning Avaya Voice Portal. It helps organizations automate and centrally manage multimedia self service and integrated voice response applications. From inbound to outbound automated customer care, Experience Portal can help your organization reach a new level of customer satisfaction and business competitive advantage.

Key Benefits

What if your business had the ability to serve customers across multiple channels while lowering your service and operating costs? What if your technical staff were able to manage and administer all your enterprise self service applications, both inbound and outbound, from one common set of tools and interfaces? Experience Portal can do these things and more. It can help you:

- Improve Customer Satisfaction: Differentiate your brand experience across multimedia inbound and outbound self service, all blended seamlessly with support from your experts and staff when needed.
- Lower Service Costs: Lower service costs with convenient 24/7 automation of inbound and outbound interactions across multiple media.
- Reduce Operating and Capital Expense: Dynamically optimize self service to best serve your customers and your business. Reduce application and infrastructure costs and accelerate time to market of new services.

Key Features

Customer collaboration across any media, any mode:

- New devices and technologies have changed consumer expectations leading many organizations to consider full scale adoption of multiple channels and media. It supports a wide array of service options, from voice, video kiosk, mobile, and integrated voice and video response to outbound voice, email, and SMS text interactions. In addition, it supports sophisticated conferencing, video, call back, and enterprise routing capabilities that can help you further realize more powerful, fully automated service experiences.

Open platform lowers costs, simplifies integration:

- It is a software only solution that runs on off the shelf hardware and software. It is based on Web services and web communications standards like VoiceXML and CCXML to allow lower cost, simpler integration with your existing web and enterprise application environment. Easy to use Web service integration tools allow faster service creation and lower development costs by leveraging existing applications and web infrastructures. Organizations can build, manage, and

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

maintain multimedia self service applications using the same skills, tools, and interfaces used for existing web applications.

Distributed, highly scalable architecture:

- It can scale to support from a few to tens of thousands of automated voice and multimedia interactions. It can be deployed in a virtualized environment, helping reduce business' hardware footprint, lowering the capital and operational expenses of self service. Support for Web services, MRCP, VoiceXML, and other standards allow for separation of application logic from the underlying communications and speech infrastructure, delivering a highly flexible and reliable solution.

Flexible contact center deployment options:

- Experience Portal supports in front and networked PBX configurations across TDM, IP, and SIP environments. When deployed in front of the PBX, it can directly terminate SIP service provider trunks and conduct self service before calls land on the PBX or ACD. This helps eliminate costly pre-route, post route, and data directed dialing charges and helps reduce the contact center infrastructure footprint. A networked PBX configuration behind the PBX and ACD is optimal when organizations require minimal changes to their existing infrastructure.

High reliability for mission critical service:

- Experience Portal is designed to meet the most stringent performance and high availability requirements that today's mission critical speech enabled communications applications demand, while helping businesses lower ownership costs. Unique dynamic license pooling and high availability automatic failover capabilities maximize continuity of both outbound and inbound campaigns and services.

Built-in application level reporting:

- It collects an extensive set of call, session, and application record detail that can be presented within fully customizable web-based reports. It combines detailed built in application level reporting with true enterprise wide reporting and analytics through Avaya IQ to provide managers with a holistic understanding of key customer and operations business data. Centralized multiple system management and reporting allow a single cockpit view into all live systems with operational indicators.
- Records are accessible through an open interface for integration into virtually any existing enterprise reporting system (Cognos, Crystal Reports) or information can be passed to Avaya IQ or Avaya Operational Analyst for cradle to grave contact center reporting.
- It includes detailed application reporting, automatic breadcrumb reports of a customer’s experience at every step of an interaction, plus transactional roll ups. Application and caller information can be combined in unique ways with other external resources (Web mashups) such as overlaying caller detail report data with mapping data to see the geographical distribution of caller information for visual trends analysis.

Centralized application and systems management:

- It includes a multi tenant, roles based management system, Experience Portal Manager, to provide a single place for access to applications, system, and server information and data. Experience Portal Manager is a web-based interface to Experience Portal, allowing users to provision and manage applications, manage outbound campaigns, generate reports, as well as monitor the system and applications. It supports centralized management of key features like Avaya Intelligent Customer Routing for enhanced wait treatment and load balancing as well as

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

applications like Avaya Proactive Outreach Manager for outbound phone, email, and SMS campaigns.

- Businesses can empower non-IT managers to locally manage their own applications and to change service behavior on demand when needs dictate. For example, local retail managers can issue their own outbound alerts or customer surveys as well as update key self service information such as hours of operation, announcements, or greetings as needed without requiring specialized development or testing resources.

Application investment protection:

- It provides a seamless migration path for organizations moving from TDM/IP to SIP-based contact center architectures. Also provided free of charge is Avaya Aura® Orchestration Designer, an Eclipse based development environment for creation of Experience Portal multimedia self service and Avaya Aura® Contact Center workflow applications. Orchestration Designer also supports creation of VoiceXML applications for Avaya Interactive Response and Avaya Media Processing Server as well as speech and multimedia applications written for prior releases of Avaya Experience Portal.
- Existing Media Processing Server Developer and Media Processing Server VoiceXML applications can be run on a Media Processing Server Application Processor managed within it. This helps businesses centralize management and reporting across both existing Media Processing Server applications and new services built using the latest in Experience Portal multimedia automation.
- For existing Interactive Response users, common platform licensing allows users on Avaya maintenance to receive free product upgrades and support. Orchestration Designer, Interactive Response, and Experience Portal share the same VoiceXML browser allowing existing VoiceXML applications written in Avaya Dialog Designer to be managed from Orchestration Designer and run on Experience Portal. This approach helps reduce application deployment risks, increases self-service application portability, and helps provide a consistent user experience.

Components and Architecture:

- It is designed specifically for today's networked IP and SIP based enterprise contact centers. The solution has four components: Experience Portal media servers, Experience Portal Manager, Orchestration Designer, and the Application Execution Environment. Individual components reside on separate servers or for smaller scale deployments can be loaded on a single server.

Experience Portal Media Servers:

- Experience Portal media servers provide automation functionality such as terminating telephony sessions, interfacing to third party speech and other multimedia services, and management of VoiceXML and CCXML sessions. Media server software integrates via H.323/SIP and RTP/C to IP Telephony infrastructures and manages external speech and media resources. It supports both the Avaya Media Server and Experience Portal Media Processing Platform.
- Experience Portal media servers include a fully programmable CCXML session manager, which supports dynamic control of multiple voice dialogs and sessions with advanced call control functions such as on host conferencing, advanced answering machine and human detection, and programmable SIP headers. The media server also mixes multichannel streams. A fully standard VoiceXML Voice Browser supports recording of caller utterances as well as a complete call and session detail collection for reporting. Secure session management includes encrypted signaling, encrypted audio, secure communication with external application servers, and masking of sensitive data within management and user logs.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Experience Portal Manager

Experience Portal Manager provides centralized operations, administration, management and provisioning interfaces for Experience Portal, Proactive Outreach Manager, Intelligent Customer Routing, and other Avaya and Avaya Partner applications. An easy to use web-based interface provides support for the following management functions:

- Media servers which support all concurrent self service sessions across your enterprise.
- VoIP, application, and speech resource provisioning.
- Fail over in case of loss of a media server by reclaiming licenses and registrations from the affected servers and automatically redeploying to spare capacity or spare servers.

Experience Portal Manager includes a SNMP Management Information Base to external Network Management Systems such as IBM Tivoli or HP OpenView.

Avaya Aura® Orchestration Designer

Orchestration Designer supports application development for Experience Portal, Voice Portal, Interactive Response, Media Processing Server, and Avaya Aura® Contact Center. It is a complete Integrated Development Environment allowing faster and less costly application design, coding, debugging, testing, simulation and deployment. Orchestration Designer is provided at no added cost with every Experience Portal and Contact Center purchase and is downloadable from Avaya DevConnect on avaya.com.

Application Execution Environment

The application execution environment can be deployed in a virtualized environment, helping reduce business' hardware footprint, and lowering the capital and operational expenses of self service. The Web Server host, like an Apache Tomcat Web Server, serves the standards based VoiceXML and CCXML script to the Experience Portal media servers when called. This approach lowers IT management costs by allowing your organization to reuse existing web application servers for application management.

Avaya Callback Assist

Avaya Callback Assist enables the contact Center to present callers with the option of receiving a call back during peak call volume periods. The application announces the estimated wait time and offers customers the choice of receiving a call back as soon as the next agent becomes available or getting a call back at a scheduled date and time. Customers who choose a call back are prompted to record a message with their name, reason for calling, and their preferred reach number. Then the customer chooses whether they want an earliest available or scheduled call back. If the caller chooses an earliest available call back, Callback Assist waits in queue in place of the caller, engages the contact center agent, and plays the recorded message. Once the agent is prepared to handle the customer's transaction, Callback Assist launches the outbound call and connects the customer with the agent.

This solution can help you increase customer retention and satisfaction and boost customer loyalty by:

- Improving your customers' experiences, callers have more options for their contact center interactions
- Decreasing call abandon rates, no more unnecessary waiting in queues
- Reducing customer dissatisfaction by reducing wait times
- Enhancing the ability of existing staff to handle peak call volumes through traffic leveling, shifting peak call volumes to non-peak times
- Saving on toll charges associated with callers waiting in queue

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Another benefit is improved agent morale because agents handle fewer calls from upset customers who have waited too long in queue.

Although most contact center managers acknowledge the importance of handling customer calls quickly and effectively, it is not cost effective to staff for peak call volumes to avoid queuing at all times.

Customers forced into queue are faced with the choice of waiting for an agent to become available or terminating the call. Abandoning the call can cause customer irritation and loss of goodwill. Or worse, the customer could resort to contacting a competitor. Customers who choose to call back at a later time have no way of knowing whether they will get through to an agent or face another long wait in queue. Clearly, none of these choices is conducive to customer satisfaction and retention.

Queuing calls has financial consequences as well, toll charges rise as customers wait in queue and staffing becomes an issue. Faced with a choice of dealing with dissatisfied customers versus the cost of adding staff to meet service level goals; contact center managers often choose to live with their current staffing model.

Call backs can be offered to customers based on the estimated wait time in queue. This provides added assistance to your contact center staffing and productivity by shifting customer interactions during peak calling times to the non-peak times when your agents might be less productive. To help see that service levels can be met, resource availability is validated before a scheduled call back is offered.

Callback Assist also offers a Web Service interface to enable your customers to request callbacks directly from Web sites. By providing this value added service, customers can quickly interact with the contact center to get the support they need. It makes it easy for your customers to work with you. You can offer call back requests during out of hours periods, let callers cancel pending call backs, and provide a tool for your customers to schedule their call back requests.

It can be deployed in either a CTI or a SIP environment. Callback Assist provides a simple to use administration tool, standard reporting, and support for multiple languages.

Intelligent Customer Routing

Intelligent Customer Routing is an Avaya solution for single site and multisite contact centers. The Intelligent Customer Routing solution supports exceptional customer service, at lower cost, building a bridge to the next generation contact center while at the same time preserving existing investments. This new architecture can either eliminate or reduce the dependence on outdated, complex and costly technologies utilized in many contact centers today.

The Intelligent Customer Routing solution is built using an open, standards based architecture that provides a common control point for all contact center calls coming into the enterprise. This control point identifies the originator, the purpose and value of the contact to the business, then provides automated self-service (when appropriate) or determines the best route for the call if agent assistance is required.

The Intelligent Customer Routing architecture is SIP-based with centralized SIP session management controlling all communication between the enterprise servers. Inbound trunks may be either IP or TDM, but all server communication within the enterprise uses SIP signaling. SIP provides native capabilities that can transform call handling within the enterprise and reduce the dependence on outdated and complex technologies. The result is an architecture that is simpler, more robust, at lower cost, while providing superior customer service and improved business agility.

Proactive Outreach Manager

What if your business could reach out and interact with customers that have critical service or support needs? What if your organization could quickly take action on your customers anticipated needs and reduce inbound call traffic with proactive outbound contact? What if you had a low cost way to improve customer awareness of new services and offers?

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Proactive Outreach Manager does all these things and more. It is an application platform that enables organizations to design and manage high performance and cost effective automated notifications and outbound campaigns that reach out to customers using voice, email, or text messaging. These campaigns can notify customers of key information and enable them to take immediate action through automated self service or by a conversation with an agent.

It simplifies creation, execution, and management of outbound campaigns and notifications helping businesses reduce costs, increase revenues, and improve customer satisfaction.

Proactive Outreach Manager can help you:

- Improve Customer Satisfaction: Provide timely communication of information and status updates through email, SMS text, or telephone based on the customer's preferences.
- Lower the Cost of Service: Reduce inbound traffic by anticipating caller inquiries and allowing customers to take action. Lower outbound agent costs by automating simple interactions through lower cost email, IVR, or SMS text.
- Reduce OPEX and CAPEX Costs: Uses Avaya Voice Portal for automated outbound campaigns allowing you to deploy mission critical automated outbound services that leverage and compliment your existing inbound self service applications.
- Generate Revenue: Create and execute customized cross sell and or up sell campaigns to generate new or upgrade revenue.

Proactive Outreach Manager offers the following key features:

- Multichannel Blending and Escalation: Design interactive voice, email, and text messaging campaigns that allow interactions to take place across multiple channels, such as providing information through one channel while allowing response through another. Design applications to move from email to text to voice on subsequent contact attempts based on contact urgency or other conditions like shifting from automated call to email after business hours. Applications can also support Preference Management approaches so that consumer communication preferences are honored.
- Campaign Design: Leverage the powerful, open standards Avaya Dialog Designer environment to design interactive campaigns and notifications that dynamically adjust based on customer status, business rules, contact lists, call schedules, and agent availability. Build outbound campaigns leveraging existing inbound self service applications to expedite time to market of new services. Build contact lists using virtually any data source and add new contacts to existing campaigns without interrupting campaign execution.
- Advanced Outbound and Speech Capabilities: Employ human voice and answering machine detection to leave a personalized message, for example: Sorry we missed you. Utilize prerecorded prompts or the latest speech technologies to design highly effective, automated customer communications.
- Contact Center Integration: Design automated outbound campaigns to complement and extend beyond your existing inbound contact center and outbound agent campaigns. Provide customers the ability to request transfer to an agent with screen pop to expedite their agent-based interaction.
- Campaign Throttling: During automated campaigns that provide the option to transfer to an agent, control the volume of outbound contact attempts based on inbound agent queue times. Leverage key data like; Expected Wait Time to automatically throttle campaign contact attempts to manage call service levels for transactions requiring agent assistance.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Shared Customer Status: Shares customer status in real-time such that preferences (for example, opt-in/opt-out) or status changes (for example, delinquent bill is paid) are reflected in real-time across all other concurrent campaigns.
- Campaign Tracking and Reporting: Track campaign status in real time via web browser accessible reports. Monitor and analyze campaign effectiveness with real time and historical reports that provide a unified view of campaign activity and customer status.
- Multi tenancy: Empower business leaders across your organization to design and manage their own outbound campaigns. Leverage multi tenancy and roles based access to centralize access and control to relevant systems, campaigns, detailed customer data, and reports.
- Unified Application Management: Proactive Outreach Manager leverages Avaya Voice Portal to simplify management and administration costs by unifying access to campaigns, applications, and customer data for both outbound campaigns and inbound self service applications.
- Compliance: Stay compliant with the latest government regulations. Proactive Outreach Manager supports key capabilities like Do Not Call lists, Opt-out, and Opt-In.

Proactive Outreach Manager applications utilize Avaya Voice Portal and Avaya Dialog Designer for open standards based campaign design, development, implementation, management, administration, and reporting. Outbound applications run on the same high availability architecture designed and developed specifically for mission critical customer self service applications.

With Avaya Voice Portal, organizations can quickly build multichannel self service campaigns that seamlessly blend outbound notification with inbound self service interactions: all on the same platform. This approach provides organizations a means of vastly simplified management and administration of both inbound and outbound self service applications and client data.

Today's organizations are challenged to continually improve customer satisfaction and revenues while dramatically lowering costs. To improve in all these areas, many organizations have moved to automating outbound customer care. Automating outbound self service and notifications is a great way to expand customer service and support as well as reduce and shape live customer call volume to lower cost, automated channels. This approach can result in a significant reduction in service cost while in most cases also improve service levels, enterprise responsiveness, and customer satisfaction.

5.3.0.5 Communications End Points and Applications

- Attendant Consoles
- IP Phones

Avaya Response:

Mobility is playing an ever increasing role in business life. This trend is leading companies to explore new ways of working that can drive growth and increase competitive advantage while reducing costs. One compelling opportunity is integrating the powerful telephony capabilities available when in the office with the ubiquity and portability of the mobile device.

Avaya is extending business communications applications to mobile devices, allowing employees to be more accessible and productive while on the move, even though employee mobility requirements may differ by their department and role within the organization. With the growing number of mobile devices options available to employees, it can be difficult to accommodate the possible combinations of devices and requirements. We know you want to make employees more productive, but at the same time, need to balance functionality and productivity with the associated costs. The Avaya one-X® Mobile family of clients provides options to increase employee productivity and responsiveness outside the office while helping to reduce mobile expenses. With direct integration to supported Avaya Aura® Communication

Manager telephony platforms and broader application integration, one-X Mobile sets a goal of meeting requirements, as well as the needs of its employees.

Avaya Extension to Cellular

Avaya has pioneered enterprise fixed mobile convergence systems and applications with the Extension to Cellular capabilities of Communication Manager since 2001. This robust mobility application extends enterprise communications capabilities to mobile workers in any global location. It bridges a mobile device to a desk phone providing true one business number access. The software based solution provides the foundation for the Avaya one-X® Mobile family of clients and can be easily deployed to any mobile device though a simple activation of an Extension to Cellular license on the supported Communication Manager telephony application.

Avaya one-X® Mobile

Avaya one-X® Mobile builds on the functionality of Extension to Cellular by providing a family of mobile clients designed to further enhance the productivity of enterprise mobile workers. It provides an intuitive graphical user interface to provide quick access to office phone functionality. The clients support most major mobile operating systems and devices ranging from high end smart phones to lower end feature phones providing support for most enterprise environments, independent of the mobile devices deployed or wireless networks used.

All one-X Mobile clients offer one number and one voicemail in addition to enhanced features available via an intuitive interface on the mobile device.

The following clients offer Unified Communication features, such as visual voicemail, corporate directory lookup and user controlled call routing:

- Avaya one-X® Mobile for iPhone
- Avaya one-X® Mobile for Android
- Avaya one-X® Mobile for Java
- Avaya one-X® Mobile for Palm
- Avaya one-X® Mobile for RIM
- Avaya one-X® Mobile for Windows Mobile 5 (unified communications version)
- Avaya one-X® Mobile for Windows Mobile 6 (unified communications version)

The following clients offer Telephony features, such as conference, transfer, call park, and other PBX features:

- Avaya one-X® Mobile for Symbian
- Avaya one-X® Mobile for Windows Mobile 5 (telephony version)
- Avaya one-X® Mobile for Windows Mobile 6 (telephony version)

Avaya one-X Mobile can be deployed with a telephony only integration to provide single number access for both incoming and outgoing calls as well as direct access to sophisticated features found on your office phone from your mobile device. The implementation is software based and only requires the purchase of Extension to Cellular software licenses added to an existing Communication Manager server along with the download and installation of the appropriate client from the Avaya support website at support.avaya.com. This deployment provides a robust integration with Communication Manager without the need for additional hardware components.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya IP Wireless Phones

In building wireless voice delivers many distinct advantages and benefits. It provides a secure means of un-tethering workers while keeping key employees available to customers and co-workers. By facilitating communications, in building wireless voice can increase workforce productivity. In addition, since wireless voice can work with and extend the existing IT infrastructure, it leverages your existing investment.

The benefits of its wireless voice solution can be augmented by taking advantage of a converged IP network and integrate business-enabling applications. Avaya can help design and develop customized applications such as the following:

Avaya 3641 IP Wireless Telephone/Avaya 6120 WLAN Handset

The Avaya 3641 IP Wireless Telephone, and its counterpart the Avaya 6120 WLAN Handset, is an intermediate level phone designed for environments where high end-point density or vertical application integration is required. It supports 2.4 and 5.0 GHz WiFi using 802.11a and 802.11b/g.

The Avaya 3641 IP Wireless Telephone/6120 WLAN Handset has ruggedized durability and provides up to four hours of talk time and 80 hours of standby time with the standard battery. Optional Extended and Ultra Extended batteries provide up to six hours of talk time and up to 120 hours of standby time and up to eight hours of talk time and up to 160 hours of standby time, respectively. It is IP 53 certified for resistance to dust and liquid, MIL 810F Proc IV 516.5 for shock resistance, environmentally friendly, while being both Waste from Electric and Electronic Equipment and Restriction of Hazardous Substances compliant.

The Avaya 3641 IP Wireless Telephone/6120 WLAN Handset implements Quality of Service via the SpectraLink Voice Priority protocol, a Quality of Service mechanism that is implemented in the 3641 Telephone/6120 Handset and Access Point which gives preference to voice packets over data packets on the wireless medium. In addition, if the Access Point supports WiFi Multimedia, the wireless telephone automatically discovers it and uses it.

The Avaya 3641 IP Wireless Telephone/6120 WLAN Handset features a grayscale Display (128x96 pixels), Navigation Keys, four Soft Keys, and five user selectable profiles. It features a personal Directory, Local Speed Dial, One touch Dialing, Keypad Lock/Auto lock, Battery and Signal Strength Indicators, Display Contrast Adjustment, User Name Display, and Extension Display. The Avaya 3641 IP Wireless Telephone/6120 WLAN Handset also features a headset jack and an office quality Speakerphone.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-1 Avaya 3641 IP Wireless Telephone/Avaya 6120 WLAN Handset

Avaya 3645 IP Wireless Telephone/Avaya 6140 WLAN Handset

The Avaya 3645 IP Wireless Telephone, and its counterpart the Avaya 6140 WLAN Handset, is a high end phone designed for environments where high end-point density or vertical application integration is required. It supports 2.4 and 5.0 GHz WiFi using 802.11a and 802.11b/g. The Avaya 3645 IP Wireless Telephone has all the same features and functionality of the Avaya 3641 IP Wireless Telephone and also supports a Push to Talk feature, with 24 channels and a priority channel, as well as a larger ear cup, larger fonts, and rubberized side grips.

The Avaya 3645 IP Wireless Telephone/6140 WLAN Handset has ruggedized durability and provides up to four hours of talk time and 80 hours of standby time with the standard battery. Optional Extended and Ultra Extended batteries provide up to six hours of talk time and up to 120 hours of standby time (Extended) and up to eight hours of talk time and up to 160 hours of standby time (Ultra Extended), respectively. It is IP 53 certified for resistance to dust and liquid, MIL 810F Proc IV 516.5 for shock resistance, environmentally friendly, while being both Waste from Electric and Electronic Equipment and Restriction of Hazardous Substances compliant.

The Avaya 3645 IP Wireless Telephone/6140 WLAN Handset implements Quality of Service via the SpectraLink Voice Priority protocol, a Quality of Service mechanism that is implemented in the Avaya 3645 Telephone/6140 Handset and Access Point which gives preference to voice packets over data packets on the wireless medium. In addition, if the Access Point supports WiFi Multimedia, the wireless telephone automatically discovers it and uses it.

The Avaya 3645 IP Wireless Telephone/6140 WLAN Handset features a grayscale display (128x96 pixels), Navigation Keys, four Soft Keys, and five user selectable profiles. It features a personal Directory, Local Speed Dial, One touch Dialing, Keypad Lock/Auto lock, Battery and Signal Strength Indicators, Display Contrast Adjustment, User Name Display, and Extension Display. The Avaya 3641 IP Wireless Telephone/6140 WLAN Handset also features a headset jack and an office quality Speakerphone.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-2 Avaya 3645 IP Wireless Telephone/Avaya 6140 WLAN Handset

Avaya Extension to Cellular

The powerful Extension to Cellular feature of Communication Manager can connect callers to employees wherever they are, with just one call. Extension to Cellular enables users to remain productive while mobile with one number and one voicemail capability. It delivers one number access by enabling calls bound for an employee's business number to ring simultaneously on both the office telephone and up to four mobile (or wireline) telephones. While on a call, users can access advanced features such as transfer and conference.

Access to enhanced productivity and cost savings features via a GUI on the mobile device is available with the one-X Mobile solution. This augmentation to Extension to Cellular is available on Windows Mobile 5, Windows Mobile 6, Symbian (Nokia), Java, Palm, RIM (BlackBerry), and Apple iPhone devices.

The benefits of Extension to Cellular include:

- Improved Customer Interactions: Customers only require a single number to contact employees whether the employees are roaming the office or campus environment or working from a virtual office, a hotel room, or a customer location.
- Increased Productivity: Mobile workers are reachable and available anywhere at any time and in turn have the ability to reach others, enabling them and the entire enterprise to be dramatically more efficient and productive.
- Reduced Costs: Mobility helps workers achieve cost savings in a variety of ways, making it possible, for example, to place lower cost IP telephone calls and minimize use of the public cellular network. International calls can be place through, and tracked by, the local Communication Manager system.
- Leverage Existing Infrastructure: Avaya mobility solutions mean the power and functionality of the enterprise is always at hand. For example, financial advisors can record conversations and lawyers can track billable time from their mobile phones, just as they would if they were at their desk.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya IP DECT Solutions

Avaya IP DECT solutions for Communication Manager and Avaya IP Office deliver secure, high quality wireless voice communications to mobile employees within a building or across a campus. Consisting of lightweight wireless handsets (portable parts) and associated radio base stations (radio fixed parts), these solutions use tried and true standards based technology that scales to support a large number of users. They are particularly useful for those needing high quality wireless voice communications while keeping voice and data on separate enterprise wireless networks.

The solutions leverage the Digital Enhanced Cordless Telecommunications standard pioneered in Europe and approved for use in the United States in 2005. The most notable aspects are:

- Unlike other wireless communications technologies, digital enhanced cordless telecommunications has a dedicated frequency band thereby preventing interference from other radio sources.
- The technology requires relatively little power, enabling handsets to support very long talk times.
- It has ample channels to support high density voice communications.
- It has strong security with highly effective subscription and authentication protocols to prevent unauthorized access and advanced encryption for protection against eavesdropping.

These characteristics make digital enhanced cordless telecommunications a compelling technology for businesses seeking to deploy in-building wireless voice communications solutions.

Avaya DECT R4 is an In-building Wireless Communication offer for customers in need of a voice only wireless solution. It runs on Communication Manager and Avaya IP Office and features all advantages of a full blown solution for the enterprise market: cost effective high wireless voice quality in a frequency band exclusively reserved for it that is secure, easy to deploy and enhance.

The solution consists of:

- Wireless handsets; the Avaya 3720 and 3725 DECT Wireless Handsets
- Radio base stations (with internal and external antennas) with an IP interface for usage with Communication Manager and IP Office
- An appliance server, the Avaya In-building Wireless Server, for centralized functions; such as, corporate directory and internal phonebook access, simple text messaging, integration of messaging and other external applications, centralized configuration and maintenance.

In addition, an ISDN-based version is available for use with Avaya Integral Enterprise and Avaya Integral 5 systems.

Since the solution includes a handset with a Bluetooth headset interface as well as an appliance server for attaching messaging applications it is especially well suited for verticals like healthcare and retail.

All handsets and radio base stations support the frequency bands in EMEA, NAR, and CALA with the same hardware and firmware.

Avaya one-X® Communicator

Avaya one-X® Communicator is the next generation unified communications softphone that provides enterprise users with simpler, more intuitive access to all their everyday communications tools. It provides business users with a consistent interface for Communication Manager via SIP or H.323, so it is the natural evolution path if you are currently using the H.323-based IP Softphone or SIP-based Avaya one-X® Desktop.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Used on its own, it offers robust softphone capabilities including video, and integrations to Microsoft, IBM Lotus, Citrix, and Lenovo. When integrated with the one-X Portal server, it offers presence, visual voice mail, management of audio conference calls, and 24x7 call logs.

Given the control of all the features extended to the desktop phone, it is the ideal choice for user profiles that Avaya has defined as Essential (power users who use the phone frequently, flip between multiple calls, often manage ad hoc conference calls, and require access to Communication Manager features) and Navigator (typically an administrative person who manages multiple calls and bridged calls on behalf of a number of employees).

Many enterprise workers are bombarded with too many meetings, calls, emails, Instant Messages, voicemails, and faxes from customers, coworkers, suppliers, partners, and even family. On the best day it can be a challenge to make sure that all the highest priority tasks are completed on time. It is a software solution that is implemented on PCs provided by the enterprise. With one-X Communicator, users can manage communications tasks better, making them more productive, responsive, and collaborative regardless of where they are working on any given day.

The application client combines softphone, intelligent presence, voice/video calling, visual voicemail, visual voice/video conferencing, as well as access to corporate directories and call logs. The State of Utah and the WSCA-NASPO Participating States can deploy one-X Communicator either as a standalone client or as an integrated part of leading desktop productivity tools like Microsoft® Office Communicator, IBM Lotus Sametime, and Citrix Presentation Server.

The one-X Communicator supports multiple languages, including: Chinese (Simplified), Dutch, French (Parisian), German, English, Italian, Japanese, Korean, Portuguese (Brazilian), Russian, Spanish (Latin American).

Avaya one-X® Agent

The optional Avaya one-X® Agent is a desktop application built specifically to meet the needs of contact center agents. It is focused on providing H.323 telephony and contact center features provided by Communication Manager and Call Center Elite software. one-X Agent provides features that include: Transfer, Conference, VuStats, Agent Greetings, Screen Pops, Click to Dial, and more. The user interface uses a new Work Item rather than a Call paradigm for work handling, a number of platform options, and new features including integration to the Avaya Video Telephony Solution.

It has three major market themes: Collaboration, Supervisor Desktop, and Central Management and Configuration.

- Collaboration brings a number of new capabilities to the Contact Center including Presence, Instant Messaging, Desktop Sharing, and the ability to stream video content to another user.
- The Supervisor Desktop configuration introduces a communications client to complement existing reporting clients. This configuration allows better collaboration and communication between agents, supervisors, and experts, and also automates supervisor specific functions; such as Service Observing, Quick Alert, and Coaching.
- Central Management and Configuration introduces a new server application for the central management and control of the application and user profiles, allowing them to be deployed in a just-in-time manner to the user's current one-X Agent desktop.

It also introduces the first phase of a Client API that allows other custom desktop executables to subscribe to events occurring in the program and to execute common from within such applications.

It enables customers to deploy a single agent desktop application regardless of the location of the agent, and agents are able to more effectively manage both communications and agent tasks, which in turn makes them more productive, responsive, and collaborative regardless of where they are working.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

It supports a variety of deployment options and a full complement of Communication Manager connection modes including My Computer (Roadwarrior/VoIP), Another Phone (Telecommuter/Dual Connect), and Deskphone, where it shares control of an Avaya telephone via the Communication Manager server. This set of options enables customers to deploy a single desktop application and provides seamless support for at home, remote, and outsourced agents, as well as agents physically located in a centralized contact center.

The one-X Agent is a Thick .NET Client that enables rich multimedia and contact center quality VoIP. For customers interested in utilizing Thin technologies it supports Windows Desktop Virtualization so that customers can deploy the product on Windows Server 2003 and 2008, which can be managed by the native capabilities within the Microsoft Windows Server 2008 Terminal Services platform, or through technologies like Citrix XenApp, VMWare VDI, and Sun SunRay.

It is customer installable via an industry standard MSI installation, which offers significant flexibility and a number of options. Very simple interactive installations can be initiated from the Installation Wizard, a user-friendly wrapper around the base MSI database. An optional command line installation provides the ability to run the installation silently by using installer defaults which can be modified by an administrator. The base MSI database may be extracted and further transformed by the customer administrators, Avaya Professional Services or Avaya Business Partners. In addition, Installation Administrators will have the option of providing global user configurations to each desktop for users at that desktop to share, either as part of an MSI transform installation, or by other standard PC Administration tools.

Avaya Professional Services provides a comprehensive set of services to support customized installations, configuration, screen pop, agent greetings, and other valuable desktop related services.

Avaya one-X® Deskphone Edition

The Avaya one-X® Deskphone Edition delivers a unique communications experience that drives increased employee productivity. These Avaya 9600 series IP telephones feature an intuitive interface that helps users to be proficient and confident in performing common telephone tasks such as setting up a conference call or completing a transfer. With enhanced high fidelity audio, conversations are much easier to hear, which can speed business transactions while reducing employee fatigue and stress.

The telephones provide exceptional audio performance and are green. The newest additions to the portfolio take the portfolio to new levels of power efficiency including PoE Class One models that includes integrated gigabit and a color screen. All the new models consume even less power when not being used.

The telephones are signaling protocol independent with two telephony applications, one-X Deskphone H.323 and one-X Deskphone SIP, that support H.323 or SIP respectively. This means that whether the enterprise chooses H.323 for its broad feature support and backwards compatibility or access to Avaya Aura® and low cost branch survivability, it can use the Avaya 9600 series IP telephones to drive personal productivity and competitive advantage.

The one-X Deskphone family features an intuitive user interface which helps to make users proficient and confident in performing common telephone tasks such as setting up a conference call or completing a transfer. With brilliant audio quality, it's much easier to hear and understand other people which speeds business while reducing fatigue and stress. Models now support voice commands for speech based dialing, via an embedded speech recognition engine, and allow workers to dial personal contacts stored on the phone or a USB memory stick.

The Avaya 9600 series IP telephones are built with future growth and enhancement in mind, with many modular add-ons that can be added as they are needed, protecting investments and leading to improved total cost of ownership. They also feature a very stylish and professional design including support for customized display screen saver images and custom faceplates with company logos.

They support several modes of 802.1X operation that include supplicant operation for true authentication of the telephone, pass through of 802.1X messages for authentication of an attached PC, and a multi

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

supplicant mode in which both the telephone and the PC can be authenticated. Proxy logoff is also supported to alert the network if an authenticated PC is disconnected from the telephone.

Avaya 9601 SIP Telephone

The Avaya 9601 SIP telephone is a two line telephone ideally suited for the everyday user as well as for common areas (such as lobbies, lunchrooms, and waiting areas). It delivers the advantages of advanced, integrated connectivity in an entry level device that is cost effective to acquire and operate. Shipped with the one-X Deskphone SIP software pre-loaded, it is ready to interoperate with Avaya Aura® out of the box, providing an economical option for taking advantage of the wide range of capabilities that Avaya Aura® makes possible.

As part of the Avaya 9600 series IP telephones, it leverages the enterprise IP network to deliver sophisticated voice communications from headquarters, remote locations or home offices. Integrated with Avaya Aura®, the Avaya 9601 SIP telephones evolutionary approach optimizes communications through a flexible architecture that leverages existing investments and accommodates changing business needs.

Figure 5.3.0.5-3 Avaya 9601 SIP Telephone

The Avaya 9601 SIP telephone supports reduced energy consumption and costs through PoE Class 1 design with sleep mode.

Avaya 9608 IP Telephone

The Avaya 9608 IP telephone is an eight line telephone ideally suited for everyday users; that is, those who consider the phone to be one of many useful communication tools and who rely on common functions like directory and speed dial to enhance productivity and communications. The competitively priced, high performing IP telephone features a monochrome display, four softkeys, common user interface with one-X solutions, high definition audio quality, integrated Ethernet interface, support for Bluetooth®, and DECT headsets and up to three 12 or 24 Button Expansion Modules.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Part of the Avaya 9600 series IP telephones, it telephone leverages the enterprise IP network to deliver sophisticated voice communications from headquarters, remote locations or home offices. Integrated with Avaya Aura®, its evolutionary approach optimizes communications through a flexible architecture that leverages existing investments and accommodates changing business needs.

Figure 5.3.0.5-4 Avaya 9608 IP Telephone

The Avaya 9608 IP telephone delivers high definition audio that can increase productivity by reducing fatigue and provides easier to understand multiparty calls through the wideband audio codec in the handset and headset. It simplifies call control on the display using softkeys for everyday functions such as transfer, conference and forwarding and to access everyday processes including third-party applications such as company-wide corporate directories. It also provides visual cues that can speed task management through eight Red/Green LEDs

This telephone supports reduced energy consumption and costs through PoE Class 1 design with sleep mode.

Avaya 9611G IP Telephone

The Avaya 9611G IP telephone is an intermediate eight line telephone ideally suited for users that consider the phone to be a daily communication tool and who rely on common functions such as directory and speed dial to enhance productivity and communications. Part of the Avaya 9600 series of IP telephones, it leverages the enterprise IP network to deliver sophisticated voice communications from headquarters, remote locations, and home offices. Integrated with Avaya Aura®, this telephone's evolutionary approach optimizes communications through a flexible architecture that leverages existing investments and accommodates changing business needs.

It features a color display, common user interface with one-X solutions, high definition audio quality, supports Bluetooth®, a USB interface, integrated Gigabit Ethernet, a secondary Ethernet port, Bluetooth® and DECT headsets, and up to three 12- or 24-button Expansion Modules.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-5 Avaya 9611G IP Telephone

Benefits

The Avaya 9611G IP telephone delivers high definition audio that can increase productivity by reducing fatigue. It provides easier to understand multiparty calls through the wideband audio codec in the handset and headset. Call control on the display is simplified by using soft keys for everyday functions such as transfer, conference, and forwarding, and to access everyday processes that include third party applications such as companywide corporate directories. It also provides visual cues that can speed task management via eight red/green LEDs. Energy consumption and costs are reduced via a PoE Class 1 design with sleep mode.

Avaya 9620L IP Telephone

A member of the one-X Deskphone Edition family, the Avaya 9620L IP telephone is a reduced cost version of the Avaya 9620 IP telephone that is specifically designed for walkup locations; that is, those placed in public places for the convenience of customers and employees but with reduced, restricted functionality.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-6 Avaya 9620L IP Telephone

The Avaya 9620L IP telephone features a 3.45 inch (9 cm) diagonal monochrome backlit display, which has an enhanced higher resolution (1/4 VGA). It supports up to 12 call appearances and/or administered feature keys with three concurrent line appearances visible at any one time.

It features several LED lights and buttons. LED lights on the side of the display provide explicit status of different line appearances, while LEDs built into several buttons on the phone such as Mute, Message, and Headset provide an intuitive and simple experience for the everyday end user.

It offers the same features and functionality of the Avaya 9620C IP telephone except that it does not include certain hardware features; such as, the USB port, which is used to support USB 1.1 compatible thumb drives for personal contacts, and an adapter interface for Bluetooth and Gigabit adapters. As such, while most of the Avaya 9600 series IP telephones are PoE Class 2 devices, the Avaya 9620L is a PoE Class 1 device because it uses less power to drive the telephone.

Avaya 9620C IP Telephone

A member of the one-X Deskphone Edition family, the Avaya 9620C IP Telephone is specifically designed for the everyday telephone user; that is, those who rely on multiple communications tools such as email and Instant Messaging, yet still require a high quality and intuitive telephone for voice communications.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-7 Avaya 9620C IP Telephone

The Avaya 9620C IP telephone features a 3.45 inch (9 cm) diagonal color backlit display. The Avaya 9620C IP telephone supports up to 12 call appearances and/or administered feature keys with three concurrent line appearances visible at any time.

The Avaya 9620C IP Telephone features several LED lights and buttons. LED lights on the side of the display provide explicit status of different line appearances, while LEDs built into several buttons on the phone such as Mute, Message, and Headset provide an intuitive and simple experience for the everyday end user.

The user interface on the Avaya 9620C IP telephone is helpful and intuitive, so completing call transfers and setting up ad hoc conference calls is simple and can be executed with confidence, even for the casual, everyday user.

Avaya 9621G IP Telephone

The Avaya 9621G IP telephone is a multiline deskphone ideally suited for people who spend considerable amounts of time on the phone and who rely on intelligent communications and productivity enhancing capabilities. To serve that purpose, it has a graphical color display, larger touch screen, and integrated Gigabit interface. Competitively priced and high performing, this deskphone provides high definition audio quality, customized colors, faceplates, integrated Gigabit, and a secondary Ethernet port.

Part of the Avaya 9600 series of IP telephones, this telephone leverages the enterprise IP network to deliver sophisticated voice communications from headquarters, remote locations, and home offices. Integrated with Avaya Aura®, the Avaya 9621G IP telephone's evolutionary approach optimizes communications through a flexible architecture that leverages existing investments and accommodates changing business needs.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-8 Avaya 9621G IP Telephone

Benefits

The Avaya 9621G IP telephone delivers high definition audio that can increase productivity by reducing fatigue. It provides easier to understand multiparty calls through the wideband audio codec in the handset and headset. It facilitates access to information through an easy to read high resolution color display and speeds completion of common telephony tasks with intuitive prompts on the touch screen. One touch access from the home screen makes it easy to access other applications.

This dynamic telephone supports enhanced productivity by improving call control and management through a graphical display that anticipates user intentions and makes contextual menus, prompts, and instructions easy to read. It guides users through critical functions such as call transfer, conferencing, and forwarding by providing soft keys that also guide users through processes, including third party applications such as companywide corporate directories. It also enhances flexibility with integrated Gigabit Ethernet, inclusion of a secondary Ethernet line interface, and support for Bluetooth via an adapter.

Energy consumption and costs are reduced via a PoE Class 2 design with sleep mode.

Avaya 9630G IP Telephone

A member of the one-X Deskphone Edition family, the Avaya 9630G IP telephone is specifically designed for the essential telephone user; that is, those for whom the telephone is essential in order for them to complete their job, such as sales representatives, relationship managers, and attorneys. Smart, sleek, stylish, and highly functional, the Avaya 9630G IP telephone delivers advanced communications capabilities, including high definition audio, an integrated WML application interface, one touch access to Communication Manager mobility or forward features.

It supports higher quality wideband audio in the handset, and headset as well as the speakerphone, which provides crystal clear audio with the elimination of background noise. The backlit display and intuitive interface simplifies access to advanced Communication Manager features such as simultaneously managing multiple calls and selectively muting and dropping conference call participants.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

And, with its dual position flip stand, it makes a smart looking addition to any desk. Through its integrated web browser and application interface, it supports productivity enhancing phone applications such as corporate directories and integration with Microsoft Outlook calendars. It telephone provides built in Gigabit Ethernet support with an energy efficient PoE Class 2 rating.

Figure 5.3.0.5-9 Avaya 9630G IP Telephone

It features a 3.8 inch (9.65 cm) diagonal monochrome backlit display, which has been enhanced with higher resolution (1/4 VGA) as compared with other available monochrome telephones from Avaya. It supports up to 24 call appearances and/or administered feature keys with six concurrent line appearances visible at any time.

It has several LED buttons throughout the front of the phone. Six LED line appearance buttons on the side of the display provide explicit status of different line appearances and administered features, while LEDs built into several buttons on the phone such as Mute, Message, and Headset provide an intuitive and simple experience for the everyday end user.

It supports a 24 button expansion module. This provides the essential user with additional call appearances, bridged appearances, and administered feature keys including speed dials.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-10 9630 IP Telephone with SBM24 Expansion Module

Avaya 9640 and 9640G IP Telephones

A member of the one-X Deskphone Edition family, the Avaya 9640 and 9640G [9640(G)] IP telephones with high resolution color display are specifically designed for the essential telephone user; that is, sales representatives, relationship managers, and attorneys. The Avaya 9640(G) IP telephone provides superior high fidelity audio, built in, one touch access to key Communication Manager mobility features, and a stylish but professional design.

It supports higher quality wideband audio in the handset, and headset as well as the speakerphone, which provides crystal clear audio with the elimination of background noise. The backlit display and intuitive interface simplifies access to advanced Communication Manager features such as simultaneously managing multiple calls and selectively muting and dropping conference call participants. With its dual position flip stand, the Avaya 9630(G) IP telephone makes a smart looking addition to any desk. Through its integrated web browser and application interface, the Avaya 9640(G) IP telephone supports productivity enhancing phone applications such as corporate directories and integration with Microsoft Outlook calendars. The Avaya 9640G IP telephone also provides built in Gigabit Ethernet support with an energy efficient PoE Class 2 rating.

The Avaya 9640(G) IP telephone is the ideal telephone to support productivity enhancing phone applications such as corporate directories, integration with Microsoft Outlook calendars and surveillance cameras/webcams (refreshed still images).

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-11 Avaya 9640(G) IP Telephone

The Avaya 9640(G) IP telephone features a 3.8 inch (9.65 cm) diagonal high resolution color backlit display and it supports up to 24 call appearances/administered feature keys with six concurrent line appearances visible at any time. The six LED line appearance buttons on the side of the display provide explicit status of different line appearances and administered features.

The Avaya 9640(G) IP telephone supports a 24 button expansion module, which provides the essential user with additional call appearances, bridged appearances, and administered feature keys including speed dials.

Avaya 9641G IP Telephone

The Avaya 9641G IP telephone is a premium multiline deskphone ideally suited for people who spend considerable amounts of time on the phone and who rely on intelligent communications and productivity enhancing capabilities. To serve that purpose, it has a graphical color display, larger touch screen, and integrated Gigabit interface. Competitively priced and high-performing, this deskphone provides high definition audio quality, customized colors, faceplates, integrated Gigabit, a secondary Ethernet port, and support for up to three 12 or 24 button Expansion Modules.

Part of the Avaya 9600 series of IP telephones, this telephone leverages the enterprise IP network to deliver sophisticated voice communications from headquarters, remote locations, and home offices. Integrated with Avaya Aura®, the Avaya 9641G IP telephone's evolutionary approach optimizes communications through a flexible architecture that leverages existing investments and accommodates changing business needs.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-12 Avaya 9641G IP Telephone

Benefits

The Avaya 9641G IP telephone delivers high definition audio that can increase productivity by reducing fatigue. It provides easier to understand multiparty calls through the wideband audio codec in the handset and headset. It facilitates access to information through an easy to read high resolution color display and speeds completion of common telephony tasks with intuitive prompts on the touch screen. One touch access from the home screen makes it easy to access other applications.

This dynamic telephone supports enhanced productivity by improving call control and management through a graphical display that anticipates user intentions and makes contextual menus, prompts, and instructions easy to read. It guides users through critical functions such as call transfer, conferencing, and forwarding by providing soft keys that also guide users through processes, including third party applications such as companywide corporate directories. It also enhances flexibility with integrated Gigabit Ethernet, inclusion of a secondary Ethernet line interface, and support for Bluetooth via an adapter.

Energy consumption and costs are reduced via a PoE Class 2 design with sleep mode.

Avaya 9650 and 9650C IP Telephones

A member of the one-X Deskphone Edition family, the Avaya 9650 and 9650C [9650(C)] IP telephones are specifically designed for the navigator users, such as receptionists, assistants, and managers; that is, people who answer incoming calls, transfer callers to different departments or extensions, and monitor several line appearances throughout a typical day. The Avaya 9650(C) IP telephone features built in button module functionality with one touch access to bridged call appearances, speed dials and feature keys.

It supports higher quality wideband audio in the handset, and headset as well as the speakerphone, which provides crystal clear audio with the elimination of background noise. It supports built in button module functionality with eight physical buttons with shift capability for a total of 16 feature keys to provide simple one touch access to partners, speed dials and feature keys. And, with its dual position flip stand,

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

the Avaya 9650(C) IP telephone makes a smart looking addition to any desk. It also supports up to three SBM 24 button expansion modules.

Figure 5.3.0.5-13 Avaya 9650C IP Telephone

Through its integrated web browser and application interface, the Avaya 9650(C) IP telephone supports productivity enhancing phone applications such as LDAP corporate directories and integration with Microsoft Outlook calendars.

Avaya 9670G IP Telephone

The Avaya 9670G IP telephone is designed for people who are constantly on the phone, handle multiple calls, and are often mobile. This telephone is designed to deliver powerful and consistent communications across a variety of end user devices. It is rich in features yet easy and intuitive to use.

It includes a large bright interface with one touch access to contacts, applications, and real time information. Embedded server less applications are responsive and do not require support from IT. It also provides integrated Gigabit Ethernet and support for Bluetooth.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-14 Avaya 9670G IP Telephone

The icon based home screen is the command center of the telephone, putting the user one touch away from dialing a contact, launching an application, or accessing important information. Its bright bold icons eliminate the need for extraneous buttons, providing a user interface that is informative and visually pleasing. There is even a virtual QWERTY keyboard for easy input and editing.

The audio experience is every bit as remarkable. The wideband range (50-700Hz) provides natural sounding low frequencies and crystal clear high frequencies. Its industrial and acoustic design maximize the performance of the audio capabilities to deliver brilliant sound, whether on handset, headset, or in hands free mode.

Avaya SBM24 Button Module

The SBM24 Button Module extends the number of call appearances and feature buttons on a telephone. It provides 24 additional lines for incoming calls, outgoing calls, and calling features. Typical uses include:

- Additional lines for calls bridged from one or more other extensions
- Abbreviated dialing buttons
- Buttons to access additional switch features like call forwarding

Note that call appearances and features the Button Module displays also appear in the call appearances and features lists of the telephone.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-15 Avaya 24 Button Expansion Module for 9600-series IP Telephones

Avaya Button Module BM12

The Avaya Button Module BM12 is a 2 x 12 Button Module that is supported on the Avaya 9608, 9611G, and 9641G IP Deskphone and provides dual color LEDs/buttons aligned with 12 rows on the graphical display.

Figure 5.3.0.5-16 Avaya Button Module 12 for 9601-series IP Telephones

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Conference Phones

It's challenging these days to find enough time for work, family, and leisure. Demanding work schedules, business trips with inevitable airport delays, and daily commutes with traffic jams make finding a healthy life balance difficult. More and more businesses are embracing remote technologies to promote a better work-life balance for their employees and to do their part for the environment.

Avaya recognizes that businesses are increasingly using remote communications technologies to conduct meetings because these technologies save time and cut travel costs, and make companies greener. The benefits of teleconferencing have dramatically shifted businesses' attitudes toward it in recent years.

Avaya offers a full portfolio of conference phones including analog and IP that will meet any business conferencing needs whether it be for a conference room or a large auditorium. Avaya conference phones are ideal for day to day group collaboration in ad hoc meeting rooms, breakout rooms, and all size conference rooms. 360 degree microphone coverage assures that everyone in the room can be heard. Full duplex technology means simultaneous two-way transmission. There is no changeover from incoming to outgoing, thereby eliminating the clipping and hollow sounds associated with conventional half duplex speakerphones.

Avaya B100 Conference Phones

Avaya acquired Konftel in January 3, 2011 and re-branded their phones to the Avaya B100 Series, which includes:

- Avaya B149
- Avaya B159
- Avaya B179.

Konftel, a Swedish based manufacturer of loudspeaker communication and audio technology devices founded in 1988, was Number 2 in market share for the desktop audio conference phone market. The Avaya B100 Series Conference Phones are the re-branded Avaya version based on Konftel product.

The Avaya B100 Series Conference Phones offer sophisticated and easy to use communication solutions for small to large companies that provide superior voice quality with the award winning OmniSound® audio technology. The B100 Conference Phones cost effectively offer a variety of low bandwidth, plug and play deployment options that address the unique needs of different user groups within an organization via a broad choice of models.

With a sleek appearance and suite of smart productivity features, the B100 Series Conference Phones are an ideal choice for companies wanting to add endpoints to their existing infrastructure or with the deployment of a new network. The Conference Phones can be used to complement scheduled meetings and training sessions or for impromptu calls between globally dispersed offices and remote workers.

Avaya B149 Conference Phone

The Avaya B149 Conference Phone is an excellent choice when holding telephone conferences without compromising sound quality. It is equipped with Avaya patented OmniSound® audio technology, for crystal-clear sound and supports a Phone Book for saving contacts and a conference guide to easily set up multi-party calls or pre-programmed group calls. It also has a built-n recording function that enables calls to be recorded on an SD memory card.

With its modern Scandinavian design, it will be a welcome addition to any conference room. It is also ideal in larger settings with the addition of optional expansion microphones. Productive telephone conference meetings can be held that not only save time but also the environment, as well by cutting travel expenses.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-17 Avaya B149 Conference Phone

Crystal Clear Sound: OmniSound® audio technology provides clear transmission during meetings so no part of the discussion is missed. Full duplex operation transmits and receives sound simultaneously to prevent audio clipping. The phone features 360° surround sound as well as powerful speakers to optimize audio pick up and broadcasting, while noise suppression filters cut static background noise and an equalizer allows the pitch to be adjusted to suit the user's preference.

Plug and Play Simplicity: The Avaya B149 Conference Phone is simply connected to an analog telephone line and a power outlet, and it is ready to go! Quick and easy! Also included are a conference guide and a handy phone book to store key contacts.

Flexibility and Productivity Enhancing Features: It supports enhance web conferencing, video, and other communications environments. It is a versatile high performer that complements the existing solutions and can be easily redeployed as the business grows or as needs change.

Avaya B159 Conference Phone

The Avaya B159 Conference Phone is packed with many smart features and designed for flexible performance. Conversations can be recorded on SD memory cards while the line mode feature allows the user to switch between, and combine, three connectivity technologies; analog, cell phones, and USB. The conference guide helps the user make multiparty calls and save call groups, which is very useful if regular calls are made to the same group. It is also ideal in larger environments option expansion microphones are added, and also supports connectivity to a wireless headset and a public announcement system. It goes without saying that the Avaya B159 Conference Phone delivers ultimate sound quality, based on a brand new generation of OmniSound®, Avaya crystal clear audio technology. Last, but not least, the Avaya B159 Conference Phone has an intriguing Scandinavian design that enhances any conference table.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-18 Avaya B159 Conference Phone

Crystal Clear Sound: OmniSound® audio technology provides clear transmission during meetings so no part of the discussion is missed. Full duplex operation transmits and receives sound simultaneously to prevent audio clipping. The phone features 360° surround sound as well as powerful speakers to optimize audio pick-up and broadcasting, while noise suppression filters cut static background noise and an equalizer allows the pitch to be adjusted to suit the user's preference.

Plug and Play Simplicity: The Avaya B159 Conference Phone is simply connected to a telephone line and a power outlet, and it is ready to go! Quick and easy! Line mode lets the user switch and combine analog, mobile, and USB connections, the latter of which supports VoIP calls through a PC. Also included are a conference guide and a handy phone book to store key contacts.

Flexibility and Productivity Enhancing Features: It supports enhance web conferencing, video, and other communications environments. It is a versatile high performer that complements the existing solutions and can be easily redeployed as the business grows or as needs change.

Avaya B179 SIP Conference Phone

The Avaya B179 SIP Conference Phone is a flexible SIP-based conference phone, perfect for companies that use IP voice services. The clear natural sound comes from OmniSound®, Avaya patented wideband audio technology. This stylishly designed phone is packed with intelligent features for more efficient conference calls. Use the conference guide to call pre-programmed groups with just a few simple pushes of a button. Conveniently import and export contact details via the Web interface. Create a user phone book with the personal user profile feature.

It is also ideal for larger conferences since it can accommodate expansion microphones, an external wireless headset, and a public announcement system. It combines all the benefits of IP voice service with innovative new features.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.0.5-19 Avaya B179 SIP Conference Phone

Benefits

Crystal Clear Sound: OmniSound® audio technology provides clear transmission during meetings so no part of the discussion is missed. Full duplex operation transmits and receives sound simultaneously to prevent audio clipping. The phone features 360° surround sound as well as powerful speakers to optimize audio pick up and broadcasting, while noise suppression filters cut static background noise and an equalizer allows the pitch to be adjusted.

Plug and Play Simplicity: The Avaya B179 SIP Conference Phone is simply connected to an Ethernet line, and to a power outlet if the LAN does not have PoE. Line mode lets the user switch and combine analog, mobile, and USB connections, the latter of which supports VoIP calls through a PC. Also included are a conference guide and a handy phone book to store key contacts.

Flexibility and Productivity Enhancing Features: Support for enhanced web conferencing, video, and other communications environments. This versatile high performer complements existing solutions and can be easily redeployed as the business grows or as needs change.

5.3.0.6 UC Network Management - Provides end-to-end service management for Unified Communications. Capabilities include testing, performance monitoring, configuration management, and business intelligence reporting.

Avaya Response:

Avaya Contact Center Control Manager provides centralized operational administration for Avaya Contact Center products through an intuitive browser based interface. It allows one time definition and ongoing management of data and functions relevant to contact center systems such as agents, skills, vector directory numbers, vectors, service hours tables, vector routing tables, holiday tables, extensions, announcements, call flows, CTI, IVR working hours, dynamic prompts, and menu content. After the functions and data are defined, they are automatically provisioned to all relevant Avaya Contact Center products.

Avaya Contact Center Control Manager seamlessly integrates with and supports operational administration of the following Avaya products.

- Avaya Aura® Communication Manage

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Avaya Call Management System
- Avaya Aura® Presence Services
- Avaya IQ
- Avaya Aura® Session Manager
- Avaya Aura® Contact Center
- Avaya SIP Enablement Services
- Avaya Interaction Center
- Avaya Modular Messaging
- Avaya Contact Center Express
- Avaya Aura® Messaging
- Avaya Proactive Contact
- Avaya Communication Manager Messaging
- Avaya Aura® Application Enablement Services
- Avaya Aura® Collaboration Server
- Avaya Voice Portal
- Avaya one-X® Communicator
- Avaya Aura® Experience Portal
- Avaya one-X® Mobile
- Avaya Proactive Outreach Manager
- Avaya one-X® Portal
- Avaya Interactive Response
- Avaya one-X® Agent

Key Features and Benefits

Avaya Contact Center Control Manager offers the following features and benefits:

- Centralized management and administration of all contact center applications
- User friendly, web-based, highly personalized, thin client application interface
- Simplifies administration and reduces labor intensive administrative tasks
- Non-technical staff can perform administrative tasks easily
- Full tenant partitioning with role based access controls
- A single deployment of Contact Center Control Manager supports multiple Communication Manager systems
- Seamless transition for customers with a mixed environment of Avaya Contact Center products
- Negligible hardware requirements, a green solution enabling virtualization and cloud networking and processing
- A scalable solution that accommodates organizations of all sizes

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Intuitive visual call flow design and vector management
- An unlimited number of virtual groups can be managed and agents can be assigned to multiple virtual groups
- Full Microsoft® Active Directory integration with single sign on functionality

5.3.0.7 Collaboration - Voice, video, and web conferencing; messaging; mobile applications; and enterprise social software.

Avaya Response:

Avaya Aura® Conferencing is an enterprise conferencing and collaboration solution providing on demand integrated audio/video conferencing and web collaboration. With the Avaya Flare® Experience interface, it delivers a seamless unified communication and collaboration experience. Conferencing provides reliable call preservation and redundancy as well as outstanding bandwidth management through its distributed architecture and dynamic network adaptation techniques. It significantly lowers WAN usage by cascading media streams at regional locations. A lower total cost of ownership is achieved with a unified infrastructure for communications and collaboration, simplified management, a highly scalable software solution, and less network bandwidth usage.

Conferencing builds on the core Avaya Aura® platform, taking advantage of its session based technologies that make it easy to deploy collaboration applications to the right users anywhere in your organization. A Conferencing solution designed for audio and video conferencing, as well as web collaboration can allow your employees to collaborate seamlessly from virtually anywhere. The following benefits can be realized with such a solution.

- **Increased Productivity:** Provide everyone in your organization with intuitive communication tools that allow them to focus less on technology and more on supporting customers, completing projects and producing impactful results.
- **Savings:** Consolidate today's fragmented mix of user collaboration tools. Avoid proprietary lock in and reduce management complexity. Lowering trunking costs and outside conference service fees. Separate the conferencing application from the media processing server and cascade media streams to see significantly lower WAN usage.
- I**ncreased Flexibility**: Distributed architecture gives you control over when and where conferencing applications are implemented, as well as a high degree of resiliency.

The distributed architecture allows cascading media servers to be positioned at regional locations to optimize WAN bandwidth and provide high availability redundancy. Conferencing supports on demand conferencing through MeetMe and Ad-hoc conferences with advanced conference controls. The solution has strong integration with the Avaya Aura® core and includes broad support for mobile and Avaya endpoints. Conferencing video conferencing supports high definition resolutions up to 720p through a software video routing technology based on the H.264 SVC/AVC standard.

With Conferencing and Avaya Flare Experience, you can engage in an audio, video, or web conference with any Windows based desktop or iPad device. For non-Flare Experience users, they can simply participate in a web collaboration session, present, view rosters, and control the conference via a standard web browser or their mobile device, using the mobile application included with the product

iPad or Windows based desktops: Avaya Flare® Experience for Windows and Avaya Flare Experience for iPad turns any iPad or Windows based desktop into a one stop collaboration center through the easy Avaya Flare Experience interface.

Conferencing may be deployed as a single server configuration or with multiple servers in a distributed architecture. It utilizes multiple servers to provide a high capacity solution of up to 7,500 concurrent audio, web and HD video sessions, offering multiple design and redundancy options. The solution is comprised

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

of a number of key components that work together to provide a powerful unified communications solution. These components provide integrated management of the overall solution. The components include the following:

- **Application Server:** hosts the conference applications and handles SIP signaling from clients.
- **Media Server:** handles audio including voice mixing.
- **Web Collaboration Server:** provides content sharing to Avaya clients.
- **Document Conversion Server:** converts PowerPoint, PDF and other document types into formats compatible with Web collaboration.
- **Plug-ins to Desktop Applications:** Plug-ins for desktop applications enables users to invite and join conferences from within Microsoft Outlook or Microsoft Lync via Avaya Client Applications.
- **System:** Conferencing requires Avaya Aura® 6.2 (including Avaya Aura® Session Manager, Avaya Aura® System Manager and Communication Manager) or Avaya Communication Server 1000 Release 7.5 (including Session Manager 6.2 and System Manager 6.2.)

Conferencing delivers business value to customers of all sizes in all market segments. Easy scalability allows customers to start with small deployments and grow to essentially any size, tailoring the solution to their requirements for capacity, resiliency, redundancy, and preferred style or mode of conferencing. Finally, it is easy on the budget because bringing conferencing in house will reap significant savings on conferencing service provider fees and network trunking costs. But beyond that, the Conferencing solution has advanced media cascading techniques that enable you to decrease your WAN usage and your WAN costs allowing for a rapid Return on Investment.

5.3.0.8 Collaborative Video - A set of immersive video technologies that enable people to feel or appear as if they were present in a location that they are not physically in. Immersive video consists of a multiple codec video system, where each meeting attendee uses an immersive video room to “dial in” and can see/talk to every other member on a screen (or screens) as if they were in the same room and provides call control that enables intelligent video bandwidth management.

Avaya Response:

Radvision, an Avaya company, is a leading provider of video conferencing and telepresence technologies over IP and wireless networks. We offer end to end visual communications that help businesses collaborate more efficiently. Together, Radvision and Avaya are propelling the unified communications evolution forward with unique technologies that harness the power of voice, data and video over any network.

The Radvision Scopia product portfolio provides comprehensive and powerful visual communications solutions that allow advanced voice, data and video conferencing. The Scopia product offering includes network infrastructure solutions for multi-party conferencing, network connectivity and firewall traversal; endpoint solutions for board rooms, conference rooms, desktop and personal video conferencing; and management software for scheduling, device and bandwidth management and directory services.

The Scopia product portfolio is a powerful combination of hardware and software products that are fully standards-based and offer the highest performance available in today’s video conferencing solutions. Interoperability and interconnectivity is provided between any video-enabled device, such as a telepresence system, a conference room, a desktop or mobile video system, and with other telephony and unified communications solutions. Scopia solutions are used by institutions, enterprises and service providers to create high quality, easy to use collaboration environments, regardless of the communication network: IP, SIP, 3G, 4G, H.323, ISDN or next generation IMS.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

The Scopia XT Telepresence Platform delivers an immersive telepresence experience customizable to the unique requirements of individual rooms and customer needs. Installed and configured by the talented worldwide network of channel partners that Avaya and Radvision have, the Scopia XT Telepresence Platform provides a cost effective and highly flexible approach to telepresence.

With these highly qualified partners, customers can define the installation and furnishings that best fit within their conference room and budgets to deliver a distinct customized telepresence experience.

The Scopia XT Telepresence Platform delivers key features that include:

- **Immersive Lifelike Experience:** Multi stream, full HD 1080p video, 20 kHz CD quality audio and 1080p/30fps data sharing.
- **Customizable and Flexible:** Tailored to the unique requirements of individual rooms and customer needs, provides a cost effective and flexible telepresence deployment approach.
- **Market Leading Interoperability:** Combined with the Scopia Elite MCU, delivers unmatched interoperability with telepresence and any standards-based video conferencing systems.
- **Intuitive Apple iPad Control:** The learning curve for users is virtually eliminated with the Scopia Control application for the iPad.
- **Breakthrough Price Point:** Delivers immersive collaboration capabilities for a fraction of what competitors charge.

The Scopia XT Telepresence Platform is ideal in helping to address the following challenges that businesses deal with when implementing a video collaboration solution.

- **Immersive Life Like Experience:** Many users want to feel as though they are meeting in person through an immersive life like experience where the video scale is full size along with audio and video quality as if the remote participants are in the same room. This experience transforms the video meeting into a true collaborative session as if local and remote participants are at the same table. The Scopia XT Telepresence Platform incorporates state of-the-art technology with support for full HD 1080p video, 20 kHz CD quality audio and 1080p 30fps PC data sharing for an immersive life-like experience.
- **Customizable and Flexible:** Existing conference rooms vary considerably in their dimensions and makeup. Organizations need flexibility so that an immersive video room can also host a regular meeting saving valuable meeting room space. The Scopia XT Telepresence Platform provides an immersive telepresence experience tailored to the unique requirements of individual rooms and customer needs without pre-determined room requirements and restrictions like other solutions. Installed and configured by a worldwide network of channel partners, the XT Telepresence Platform provides a cost effective and flexible telepresence deployment approach with optimal quality in all conditions provided through powerful calibration and setup tools.
- **Interoperability:** The most effective immersive video environments are able to connect not only to other immersive systems, but also standards based room systems, desktops and mobile devices enabling video collaboration to millions of other users. The Scopia XT Telepresence Platform combined with the Scopia Elite MCU delivers unmatched interoperability with immersive telepresence systems from Cisco®/Tandberg®, Logitech®/LifeSize® and Polycom® as well as with any standards based video conferencing system, desktop and mobile device for full video, audio and H.239 data collaboration.
- **Ease of Use:** System operation must be designed for the typical end user instead of experts from IT and engineering departments. Businesses don't have the luxury to dedicate resources to place calls or moderate meetings. Maximum adoption and use means maximum Return on Investment. With the Scopia Control Multi-Touch™ application for the Apple iPad®, first time users can initiate calls, control Scopia XT Telepresence systems and moderate meetings without any training or introduction.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- **Affordability:** The Scopia XT Telepresence Platform enables the creation of an exceptional immersive experience at a breakthrough price point. The solution provides significant deployment flexibility enabling customers to customize a solution that fits within their conference room, application and budget requirements. The XT Telepresence Platform stands out amongst the competition delivering immersive collaboration capabilities for a fraction of what competitors charge.

Radvision Scopia® XT5000

The Scopia XT5000 is the flagship product in the Scopia series of state of the art video conferencing room systems. The Scopia XT5000 is the only system available to incorporate dual 1080p/60fps live video and content, HD audio, H.264 High Profile, Scalable Video Coding Technology, and optional embedded multiparty calling, making it the most advanced video conferencing system available today in its class. It is an all in one video conferencing solution that offers a highly intuitive user interface and a sleek and elegant design.

The Scopia XT5000 delivers key features that include:

- **Exceptional Experience:** Unique dual HD 1080p/60fps for live video and content and CD quality, 20 kHz audio deliver an outstanding experience.
- **Unparalleled Power:** Two full HD 1080p/60fps video channels, H.264 High Profile for bandwidth efficiency, H.264 SVC for error resiliency and an optional embedded nine-way multiparty MCU.
- **Intuitive and Easy to Use:** Designed for the end user with no training required. For an enhanced experience, the XT5000 is enabled for Multi Touch control via the Apple iPad.
- **Sleek and Elegant Design:** A natural fit for today's businesses, not only for its ease of use, but also its modern design that complements any conference room.
- **All in one Solution**: also offered combining the XT5000 room system capabilities with embedded nine-way multiparty conferencing, Scopia Desktop and Mobile conferencing, and firewall traversal.

The Scopia XT5000 is ideal in helping to address the following challenges that businesses deal with when implementing a video collaboration solution.

- **Quality:** Users demand high quality with video conferencing to be fully engaged in meetings, and if they don't have a great experience, history shows that they will not be repeat users of the technology. Requirements for content sharing have also moved beyond presenting static slides to sharing video clips and other high resolution, high motion content. The Scopia XT5000 sets the standard for an exceptional conferencing experience with the industry's only support of simultaneous HD 1080p/60fps live video and content along with CD quality 20 kHz audio.
- **Ease of Use:** System operation must be designed for the typical end user instead of experts from IT and engineering departments. Businesses don't have the luxury to dedicate resources to place calls or moderate meetings. Maximum adoption and use means maximum Return on Investment. The Scopia XT5000 enables instant, intuitive and effective control with no training required. And for an enhanced user experience, the Scopia XT5000 is enabled for Multi Touch control via the Apple iPad.
- **Network Efficiency:** Usually with higher quality comes higher bandwidth requirements and associated costs, but not with the Scopia XT5000. The Scopia XT5000 offers significant processing power for powerful compression technology such as H.264 High Profile. High Profile is very bandwidth efficient resulting in the Scopia XT5000 having excellent video quality at bandwidths and costs lower than competing offerings

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- **Error Resilience:** Maintaining high quality calls with participants over unmanaged networks like the public Internet can be problematic because of packet loss and limited bandwidth. The Scopia XT5000 with H.264 Scalable Video Coding provides very high error resiliency while maintaining interoperability with current room video conferencing systems. The Radvision Scalable Video Coding implementation is an extension to the H.264 video standard used by most video conferencing devices today. Scopia XT5000 users can receive a high quality experience even in impaired network conditions.

Radvision Scopia® XT4200

The new Scopia XT4200 offers outstanding value and cost-effective HD video communications with many features that are either unavailable or costly upgrades in other vendor offerings. The Scopia XT4200 is well equipped and includes dual 720p/60fps live video and content, HD audio, H.264 High Profile and Scalable Video Coding, dual display support and a wide angle PTZ camera. The user interface is designed for simplicity along with optional Multi Touch control via the Apple iPad for enhanced capabilities.

The Scopia XT4200 delivers key features that include:

- **Outstanding Value:** Dual 720p/60fps HD video, H.264 High Profile, H.264 SVC, dual display support and a wide-angle PTZ camera, are all included for a cost effective video communications deployment.
- **Efficient HD Performance:** Simultaneous H.264 High Profile for bandwidth efficiency and H.264 Scalable Video Coding for high quality video even in unpredictable network environments such as the Internet.
- **Intuitive and Easy to Use:** The user interface is designed for simplicity along with optional Multi Touch control via the Apple iPad for enhanced capabilities.
- **Sleek and Elegant Design:** A natural fit for today's businesses, not only for its ease of use, but also its modern design that complements any conference room.

The Scopia XT4200 is a great cost effective option to address the following challenges that businesses deal with when implementing a video collaboration solution.

- **Affordability:** The Scopia XT4200 is well equipped and includes many features that are either unavailable or costly upgrades in other vendor offerings. Dual 720p/60fps HD video, H.264 High Profile, H.264 Scalable Video Coding, dual display support and a wide angle PTZ camera, are all included for a cost-effective video communications deployment.
- **Quality:** Users demand high quality with video conferencing to be fully engaged in meetings, and if they don't have a great experience, history shows that they will not be repeat users of the technology. Requirements for content sharing have also moved beyond presenting static slides to sharing video clips and other high resolution, high motion content. The Scopia XT4200 provides a high quality conferencing experience with support for simultaneous HD 720p/60fps live video and content along with CD quality 20 kHz audio.
- **Ease of Use:** System operation must be designed for the typical end user instead of experts from IT and engineering departments. Businesses don't have the luxury to dedicate resources to place calls or moderate meetings. Maximum adoption and use means maximum Return on Investment. The Scopia XT4200 enables instant, intuitive and effective control with no training required. And for an enhanced user experience, the Scopia XT4200 is also available with Multi Touch control via the Apple iPad.
- **Network Efficiency:** Usually with higher quality comes higher bandwidth requirements and associated costs, but not with the Scopia XT4200. The Scopia XT4200 offers significant

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

processing power for powerful compression technology such as H.264 High Profile. High Profile is very bandwidth efficient resulting in the Scopia XT4200 having excellent video quality at bandwidths and costs lower than competing offerings.

- **Error Resilience:** Maintaining high quality calls with participants over unmanaged networks like the public Internet can be problematic because of packet loss and limited bandwidth. The Scopia XT4200 with H.264 Scalable Video Coding provides very high error resiliency while maintaining interoperability with current room video conferencing systems. The Radvision Scalable Video Coding implementation is an extension to the H.264 video standard used by most video conferencing devices today. Scopia XT4200 users can receive a high quality experience even in impaired network conditions.

Radvision Scopia® Desktop

The Radvision Scopia Desktop solution extends a room system video application to PC and Mac users for voice, video and data collaboration. It includes HD H.264 video for both meeting participants and data collaboration and H.264 Scalable Video Coding for error resiliency. Scopia Desktop is a simple web browser plug-in that is centrally managed, distributed and deployed without complex licensing fees or installation issues. Automatic firewall traversal allows anyone to participate regardless of where they are. With Scopia Desktop you can create conference rooms without walls and connect from anywhere, create a virtual conference room and invite other desktop or mobile users and room systems.

The Scopia Desktop Solution delivers key features that include:

- **HD Video Conferencing:** Participate in standards based video conferences and see up to 28 participants simultaneously; also connect to telepresence and unified communication clients through Scopia infrastructure.
- **Data Collaboration with Review:** View H.239 content such as presentations shared in a conference and review materials without interrupting the presenter.
- **Control, Moderate and Administer:** View participants list, change video layouts, mute noisy users, start or stop recording and streaming and examine statistics for troubleshooting.
- **Embedded Firewall and NAT Traversal:** Enjoy connectivity through enterprise boundaries while maintaining corporate security measures.
- **No Complicated Licensing:** Simply click on a link, install the browser plug-in and connect, all without complex licensing fees or installation issues.

Scopia Desktop extends a room system deployment to remote and desktop users for voice, video and data communications, allowing businesses to deal with the following challenges faced in the enterprise.

- **Enterprise grade HD Video on the Desktop:** Bring your room system experience to your PC or Mac wherever you work. Create conference rooms without walls. connect from anywhere, create a virtual conference room and invite other users and room systems from your desktop. Participate in standards based HD video conferences and see up to 28 participants simultaneously. Connect to telepresence systems, standards based HD video conferencing systems and unified communications applications for unmatched interoperability.
- **Data Collaboration with Review:** View presentations, spreadsheets, documents and images shared in a conference with standards based H.239 interoperable data collaboration and be fully engaged as if attending by a video conferencing room system. Have you also ever wanted to ask a presenter to review previously presented content, but didn't want to disrupt the entire meeting flow? With the unique advanced data collaboration/slider function that Scopia Desktop provides, individuals can jump back and review content presented earlier without interrupting the meeting.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- **Full-feature Desktop Application:** Users should continue to have full conference control, moderation and administration within their desktop video applications, just like they do with their room systems. Start or stop recording or streaming, lock a conference or end the meeting. View the participants list and mute noisy users, stop cameras or simply disconnect unwanted participants. Change video layouts including rearranging participants through the simple interface. View statistics such as codecs in use, resolution, network speed and loss for troubleshooting.
- **Works on Your Network without Modifications:** Scopia Desktop enables connectivity through enterprise boundaries while maintaining corporate security measures with automatic, embedded firewall and NAT traversal. H.264 Scalable Video Coding provides high error resiliency on unmanaged networks such as the Internet, while the Radvision NetSense bandwidth estimation and adaptation technology provides high quality on wireless networks. With these capabilities, users experience high quality video communications virtually anywhere from their desktop, and the network doesn't get in the way of video collaboration.
- **Invite Anyone to Participate:** Scopia Desktop does not have a complicated named user licensing scheme like some competing solutions in the market. The Scopia Desktop concurrent user licensing model makes deployment easy for employees, partners, suppliers, customers and even casual users. Simply click on a link, install the browser plug-in and connect, all without complex licensing fees or installation issues.

Radvision Scopia® Mobile

Scopia Mobile is the first enterprise application for the Apple iPad, iPhone, and iPod touch that allows mobile users to connect with full video, audio and H.239 data collaboration to the nearly two million installed standards based video conferencing and telepresence systems worldwide. BYOD is becoming more and more prevalent in the business world, and Scopia Mobile is the ultimate enterprise grade mobile video application. Scopia Mobile users can fully participate in enterprise video and telepresence conferences leveraging the latest mobile devices extending enterprise video conferencing and telepresence to nearly anywhere someone goes with their mobile device.

The Scopia Mobile delivers key features that include:

- **HD Video Conferencing:** Participate in standards based video conferences and see up to 28 participants; also connect to telepresence and unified communication clients through Scopia infrastructure.
- **Data Collaboration with Review:** View H.239 content such as presentations shared in a conference and review materials without interrupting the presenter.
- **Control, Moderate and Administer:** View participants list, change video layouts, mute noisy users, start or stop recording and streaming, examine statistics for troubleshooting.
- **Easy to Join and Invite Others:** Join conferences through an email link or mobile calendar; invite any attendee through advanced enterprise directory integration.
- **Mobile Broadband and Wi-Fi Capable:** Video conference when connected through mobile broadband or Wi-Fi with NetSense bandwidth prediction and adaptation for high quality.

Scopia Mobile helps to address the following challenges that businesses deal with when implementing a video collaboration solution.

- **Enterprise grade Video on the Go:** Scopia Mobile allows users to easily connect to standards-based video conferences using a smartphone or tablet with full two-way video capabilities and see up to 28 participants simultaneously. Through Scopia video infrastructure, Scopia Mobile can connect to telepresence systems, standards based HD video conferencing systems and unified communications applications for unmatched interoperability

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- **Data Collaboration with Review:** View presentations, spreadsheets, documents and images shared in a conference with standards based H.239 interoperable data collaboration and be fully engaged as if attending a conference by a video conferencing room system. Have you also ever wanted to ask a presenter to review previously presented content, but didn't want to disrupt the entire meeting flow? With the unique advanced data collaboration/slider function in Scopia Mobile, individuals can jump back and review content presented earlier without interrupting the meeting.
- **Full-feature Mobile Application:** Users should continue to have full conference control, moderation and administration even on their mobile devices, just like they do at their desktops or room systems. Start or stop recording or streaming, lock a conference or end the meeting. View the participants list and mute noisy users, stop cameras or simply disconnect unwanted participants. Change video layouts including rearranging participants through the simple Multi Touch enabled interface. View statistics such as codecs in use, resolution, network speed and loss for troubleshooting.
- **Simplicity and Accessibility:** With Scopia Mobile, participants can easily join video conferences by clicking an email link within their device calendar. They can also access a company directory to invite attendees, including unified communication clients. all enabled by our advanced enterprise integration. Additionally participants can invite guest phones and video systems by their number or address.
- **Over Any Network:** Employees want to access corporate communication capabilities regardless of where they are working. Scopia Mobile makes it possible to participate in a video conference from almost anywhere through mobile broadband or Wi-Fi making it a highly effective tool for business travelers. The NetSense bandwidth estimation and adaptation technology provides high quality on mobile networks.

Radvision Scopia® Elite 5000 Series Multipoint Conferencing Unit

The Scopia Elite 5000 Series Multipoint Conferencing Unit is a state of the art platform for high definition multiparty conferencing. Utilizing the latest in DSP technology, the Scopia Elite uses advanced media processing to support 1080p and provides telepresence interoperability, dynamic resource allocation, and advanced H.264 Scalable Video Coding technology for uncompromised HD support.

The Scopia Elite 5000 Series Multipoint Conferencing Unit delivers key features that include:

- **Supreme High Definition:** 1080p HD processing, video layouts per participant and multi stream telepresence connectivity.
- **Dynamic Resources:** Dynamic resource allocation and enhanced definition at four times capacity delivers efficiency and value.
- **Optimized Quality:** Encoder per participant provides an optimal quality experience for any endpoint on any network.
- **Maximum Usability:** On screen information overlays, video auto attendant and IVR make conferencing simple.
- **Designed to Scale:** Unequalled scalability through patented, distributed multipoint conferencing.

The Scopia Elite 5000 Series Multipoint Conferencing Unit provides the ideal infrastructure to address the following challenges that businesses deal with when implementing a video collaboration solution.

- **High Quality Experience:** Today's video conferencing systems offer capabilities such full 1080p video, HD audio and multi stream video for immersive telepresence. The multiparty conferencing capabilities must meet or exceed the endpoint capabilities to deliver an overall high quality conferencing experience. With 1080p video processing, HD audio support, multi stream

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

telepresence connectivity and individual layouts for each participant, Scopia Elite delivers superior HD conferencing. Utilization of the latest state of the art DSP technology delivers uncompromised HD performance.

- **Dynamic Resources:** Not every call is an HD call and even HD calls can require different resources such as 1080p vs. 720p. Dynamic and flexible resources provide support for mixed endpoint applications with HD and standard definition with ease and efficiency. The dynamic resource model used by Scopia Elite does not waste conferencing resources as the processing resources utilized are based on the individual connection requirements. A standard definition mobile connection does not require or utilize the same amount of resources as a full 1080p HD call saving significant processing resources when compared to other vendor offerings. This on-demand, dynamic and automatic resource allocation architecture supports any combination of endpoint capabilities without complex configuration changes. Additionally, the four times dynamic capacity feature provides excellent value when supporting systems requiring less than HD.
- **Optimized Quality:** Each conference participant should receive an experience optimized for their particular endpoint capabilities without affecting other participants; for example, a participant with a lower quality or speed network connection should not degrade the experience for others in the conference. The conference quality should also not drop just to accommodate the lower performance of a particular endpoint. The individual encoding for each participant allows an optimal experience on any network without affecting other participants. Additionally, H.264 Scalable Video Coding delivers superior video performance over unmanaged networks.
- **Usability:** Users want to easily join and control their conferences without being technical experts. Scopia Elite was designed by users and administrators for usability and simplicity. On screen information overlays, easy conference creation and entry through the enhanced video auto attendant and IVR make attending conferences simple. Complicated tasks are simple through the industry leading management interface. Additionally, Scopia Elite users can view important statistics at a glance saving time, money and headache.
- **Scalability:** Scopia Elite Multipoint Conferencing Units are designed to scale through a patented, distributed architecture. H.264 Scalable Video Coding is utilized between Scopia Elite MCUs enabling resilient connections in less than perfect network conditions. The Advanced Telecommunications Computing Architecture of Scopia Elite delivers investment protection through a reliable and future proof platform.

5.3.0.8.1 Content Delivery Systems (CDS) - A large distributed system of servers deployed in multiple data centers connected by the Internet. The purpose of the content delivery system is to serve content to end-users with high availability and high performance. CDSs serve content over the Internet, including web objects (text, graphics, URLs, and scripts), downloadable objects (media files, software, documents), applications (e-commerce, portals), live streaming media, on-demand streaming media, and social networks.

Avaya Response:

Avaya will not be responding to this requirement. We integrate via industry standards with numerous third parties that provide these types of services, but we do not have specific products that can fulfill these requirements.

5.3.0.8.2 Physical Security - Technology utilized to restricting physical access by unauthorized people to controlled facilities. Technologies include:

a. Access control systems

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

b. Detection/Identification systems, such as surveillance systems, closed circuit television cameras, or IP camera networks and the associated monitoring systems.

c. Response systems such as alert systems, desktop monitoring systems, radios, mobile phones, IP phones, and digital signage

d. Building and energy controls

Avaya Response:

Avaya will not be responding to this requirement. We integrate via industry standards with numerous third parties that provide these types of services, but we do not have specific products that can fulfill these requirements.

5.3.1 SERVICES - For each Category above (5.21-5.30), the following services should be available for procurement as well at the time of product purchase or anytime afterwards.

5.3.1.1 Maintenance Services - Capability to provide technical support, flexible hardware coverage, and smart, proactive device diagnostics for hardware.

Avaya Response:

Avaya differentiates itself with our Maintenance and Managed Service support. The following sections below represent high level overviews of Avaya Maintenance, Communications Managed Service, and Communications Outsourcing Offers per product platform. Avaya will also include detailed descriptions of Service Agreement Entitlements upon request or include with the Product/Service/Maintenance contract proposals for each specific opportunity when awarded.

Unified Communications and Contact Center

As the market leader in business collaboration, we want to see that our customers have the most comprehensive support as they transition to a collaborative environment. Our strategy is to be sure clients are receiving the service they need and want. The Support Advantage Preferred offer and Advanced Services do just that. Therefore, we must take a holistic sales approach discussing both Avaya product and services, and how they together form a solution that can help customers achieve their business goals and objectives.

Support Advantage provides a modular support model, allowing customers to choose the level of support they need to keep their communications infrastructure running at optimal levels. Based on the offer chosen, Avaya provides remote solution support model, with 24x7 technical support, advanced web services for online support, and monitoring capabilities to support and maintain customers' advanced communication systems. Additionally, for customers who do not want to increase their investment may wish to purchase Upgrade Advantage for the software subscription capabilities and onsite technical support. Advanced Services are available to care for support items that are above and beyond the normal every day support requirements. These value added offers increase value and aid the customers IT/Telecom team where resources may be constraint.

The Avaya Support Advantage portfolio provides service options designed to maintain and support net new sales and upgrades of Avaya Enterprise Solutions. It includes support for Enterprise Customers' IP Telephony, Contact Center and Unified Communications solutions. This portfolio of services is tailored to meet a wide range of customer needs, by providing a solution centric approach and delivering increased value in a flexible and modular support model. These new offers introduce a simplified quoting and pricing methodology based on license/server/gateway SKUs.

Avaya, as the recognized leader in the development and delivery of innovative collaborative solutions, understands that consistently delivering quality collaborative capabilities to customers and employees requires that all elements of an enterprise's environment work together and deliver the expected results.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya enables enterprises to meet these challenges head-on through Support Advantage, a holistic support offer for new products and upgrades, featuring flexibility and simplicity, and delivered with new levels of immediacy.

Flexibility and Simplicity

Consistent remote hardware and software support included in all support offers:

- Simple pricing and invoicing
- 24x7 access to web resources and remote technical support
- Menu of service offers aligned with customer needs
- Co-termination of contracts at system level

Synchronized billing for multi-year coverage with Preferred Support:

- Up to 85% faster response times via web ticketing
- Operations Intelligence Suite dashboard with real-time system status, reporting and incident management
- Proactive alert of PSTN alarms
- Monitoring and proactive issue resolution with EXPERT Systems[SM]
- 99% resolution of system generated alarms without dispatch
- 20% average faster resolution
- High speed secure connectivity with centralized management

Details and high level benefits of each offer include:

Essential Support provides 24x7 remote software and hardware support, access to web services and tools, and access to software, firmware, security and operating systems service packs. The Essential offer provides confirmed response times: less than one hour for total outages and under two hours for major problems. Please note that Essential Support provides remote support only and does not include real time monitoring services. In addition, new Avaya enterprise product purchases include the Secure Access Link Gateway Software which must be implemented in order to provide secure remote access for maintenance support. Essential Support is the minimum required offer for the support of new enterprise product sales.

Essential Support customers have access to award winning web services and tools, including:

- HealthCheck Reports
- Avaya Support Forums
- eNotification
- How-to-Instructional Videos
- 360 View Reports
- Communication Manager Compatibility Matrix
- Case Status Alerts
- On Line Service Submission Requests and Status Updates

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Preferred Support includes all Essential offer entitlements plus:

- EXPERT Systems Monitoring (as applicable)
- Monitoring and alert associated their PSTN facilities and DCIU Links (that connect applications to one another) helping to reduce network outages
- Operations Intelligence Suite web portal and unified dashboard
- Centralized policy management tools for increased security associated with remote access
- Secure Access Link Policy Server enables simplified and centralized management of security policies throughout the customer's telecommunication network.
- Parts Next Business Day required, where available, to accompany Essential and Preferred support. Parts Next Business Day provides for the replacement of critical server components that have been identified to be defective. This offer does not include terminal replacement, which can be purchased separately. This offer is geographically dependent due to customs, tariffs and other regional stipulations. Additional delivery options for parts available, including 8x5 with a four hour response and 24x7 with a four hour response expedited deliveries (where available).
- Onsite Support provides onsite technical support and critical server parts replacement when needed. This offer allows customers who do not have the resources, skills or want to commit to the staffing and continuous training of technicians, to care for onsite solution support needs. Onsite support is available on an 8x5 or 24x7 basis and includes critical parts replacement. The customer must purchase either Essential or Preferred Support as a prerequisite to the purchase of Onsite Support. Customers get full support for their hardware components. With an onsite dispatch a customer is assured that the technician sent will have the right skill set to address the problem, the right tools, and the necessary parts. Customers receive a fast response and no longer have the concern of receiving unexpected Time and Material charges for hardware maintenance. In addition, preventative maintenance services are provided with a site dispatch helping to reduce the potential for future problems.

Upgrade Advantage provides substantial investment protection through a software subscription program. Upgrade Advantage provides access to the latest major software releases as they become available, ensuring optimal productivity and providing access to new features.

Software Updates and Service Packs: Customers who purchase Essential or Preferred Support have access to Software Updates and Service Packs in order to keep their systems up to date with the latest software fixes. This also includes access to OS and security updates. Services Packs are considered Avaya Intellectual Property and are therefore a protected asset. Please note that firmware updates are available for download for Customers who purchase equipment from Avaya. Through the Avaya self help web site; customers have instant access to software updates and downloads. This enables a customer to access Avaya intellectual property and to keep systems operating efficiently and up to date.

Web Based Services: Customers and partner who purchase Essential, Preferred or Essential Co-Delivery Support receive 24x7 access to web based services and tools such as: HealthCheck Reports, Proactive eNotification, Proactive Case Status Alerts, Product Correction Notices, Software Compatibility Audits, Communication Manager Matrices, 360 Reports, How to Instructional videos and Avaya Support Forums. Customers can access a wide variety of web-based services to get answers to questions related to product and troubleshooting, features/functions, and general usability. The web services can recommend changes to systems to improve system reliability and performance and also expedite case resolution. Case Status Alerts provide customized options linked to status updates of open cases.

Remote Technical Support: Customers can be assured that their communications networks are supported by a team of more than 3,800 highly skilled associates within our 28 combined technical and network operations centers across the globe. Our centers are backed by Avaya Client Services and Product Research and Development to support technicians through any technical problem that might

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

arise. Customers receive solution level support for software or hardware issue that may arise on an Avaya enterprise solution, shortening the isolation and resolution process. Customers can be assured of fast response times as specified by the Service Level Objectives in both the Essential and Preferred service offers.

Remote Monitoring, Diagnostics, and Resolution: Customers who purchase the Preferred option receive proactive remote monitoring, diagnostics and resolution of alarms using Avaya EXPERT Systems patented tools. EXPERT Systems is a patented tool that contains more than 30,000 artificial intelligence algorithms, enabling Avaya to handle many aspects of remote support 24X7. Avaya EXPERT Systems together with Avaya remote engineers clears 99% of all system generated alarms remotely, often resolving issues within minutes of receiving the alarm.

Off Board Alarm Notification: Provides monitoring of the customer's public network facilities and links associated with Avaya adjuncts. When a problem begins to arise and alert is sent immediately in order to resolve the problem quickly before the circuit goes down or experiences quality issues. Which provide additional monitoring capabilities of a customer's public network facilities.

Secure Access Policy Server Application: Customers who purchase the Preferred Service offer will receive the Secure Access Policy Server software application. This software enables the customers to manage and deploy their remote access and authentication policies through one tool out to their various communication servers. These policies are automatically downloaded into the Secure Access Link remote access gateways. Customers save time and reduce error by defining policies in a centralized manner verses having to administer policies on a system by system basis.

Advanced Services: Address critical customers needs that their IT or Telecom department may not have the bandwidth or skill to address. These support services extend the customers support beyond a break/fix maintenance and add increased value.

Offer options include:

Product Correction Support (requires that the customer has purchased Onsite Support) which provides onsite assistance to the customer for the installation of services packs and patches. Customer must call in to request an onsite dispatch for this service and know the service pack that they desire to be installed.

Client Service Manager provides a highly skilled professional on a 24x7 basis to assist the customer's staff with escalations, migration planning, reports, and technical guidance.

Single Point of Contact providing the customer an technical team of Avaya experts that know their systems, configuration, sites and business rules.(Requires that the Preferred offer is purchased).

Release Management is used for automated distribution of software including license controls across the entire IT infrastructure. Proper software controls assure the availability of licensed, vendor tested, and version certified software, which functions as intended when introduced to into the existing infrastructure. Release Management also includes the following:

- Planning associated with rolling out the software
- Design and implementation procedures
- Communication and management of customer expectations
- Control of the distribution and installation of changes to the IT System.

Data

Data networks have increasing strategic importance to customers, providing connectivity to data centers, branch offices and remote workers. New business critical applications are being added into these networks at a rapid rate.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Networking Services enable customers to obtain the best performance from their data network and reduce their overall total cost of ownership.

Avaya has the capability to evaluate and operate multi-vendor networks and explore the inbuilt capability of the data devices Customers face the potential problem of dealing with networks that are not optimized for a range of activities including traffic generated by voice and video and business applications.

Avaya can audit, optimize, and manage data networks to help customers with this business critical asset.

Avaya Networking Solutions are enhanced by a range of services designed to help clients get the most from their investments. Avaya offers a wide set of Lifecycle Management services that allow clients to optimize their network performance.

Avaya Support Services provides a full solution support and maintenance services to help maximize the value of the client's networking investments and keep solutions operating at peak performance. The Support Services portfolio is flexible, allowing the client to buy pre-packaged services or build customized options meeting your business needs.

Avaya Support Services for application products include:

- Remote Support 24x7 + Operating System Updates and Upgrades
- Return and Repair Services
- Managed Spares– Next Business Day, Same Business Day, four hour 7x24
- Managed Spares with Onsite Support – Next Business Day, Same Business Day, four hour 7x24
- Remote Support 24x7 (Includes: Software Updates)
- Software Release Subscription (Includes Remote Support 24x7and Software Updates and Upgrades)

The support offers are available through different delivery options:

Direct: Avaya provides the client with first and second line support, L3 Tech Support/Corrective content, Advanced Part Replacement, Onsite Labor and Software Upgrades.

Retail: Same as direct but Partners sells the services to the client.

Video

As Video Conferencing rapidly broadens beyond the meeting room and onto desktops and mobile devices, it is becoming critical to a business' success. Enterprises need support to have a consistent, predictable customer experience with maximum uptime should an outage occur. With the new Avaya Video Support Services offer, customers can have peace of mind knowing that they are fully backed by Avaya award winning global support services.

This offer benefits your customers because it provides them with a complete spectrum of support from video experts with an average of 11 years experience in diverse video environments. The offer delivers 24x7 remote support at 8x5 industry pricing and provides 19% to 50% lower price than competitors. The offer provides access to continued innovation and quality advancements through software upgrades and updates.

- **Option 1:** is the base level of coverage and includes 24x7 remote support for hardware and software, which includes software upgrades and updates. This is the only option for Scopia software products. Option 1 is also required attach with all Scopia products except for those specific Scopia products that interoperate with IP Office 8.1
- **Option 2:** builds on 24x7 remote support with advanced parts replacements. With the growing reliance on video communications, customers may need parts replaced as quickly as possible.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Parts will be delivered next business day. This is the minimum recommended option for hardware.

- **Option 3:** contains the full stack and adds on 8x5 onsite next business day support in select countries. This is predominantly ordered for video conferencing infrastructure such as a video conferencing bridge or MCU. Video has now become mission critical and customers buying infrastructure require the aptitude and expertise to diagnose it. Highly qualified Avaya technicians answer this need.

Key customer benefits include:

- Support from video experts with average of 11 years experience supporting diverse video environments
- Access to continued innovation and quality advancements through software upgrades and updates
- 24x7 remote support and optional 8x5 onsite support globally
- Highly competitive pricing showing full commitment to the video industry

Managed Services

Avaya Operations Services is the organization in Avaya that offers consistent IT Infrastructure Library aligned Managed Services for unified communications, contact centers, data, and video solutions.

The portfolio of standard services is known as Communications Managed Services, and the individual offers are: Unified Communication Managed Services, Contact Center Managed Services, Data Networking Managed Services, and Video Managed Services.

Avaya Operations Services also offer Communications Outsourcing Solutions for clients that want Avaya to manage their existing infrastructure and help plan and facilitate a technology transformation.

Communications Managed Services from Avaya Operations Services enable Avaya and its partners to promote position and deliver globally consistent, IT Infrastructure Library aligned managed services for unified communications, contact centers, data, and video solutions.

Offer Details

The Avaya Managed Services portfolio consists of managed communications services that help Avaya clients address a variety of business and operational challenges. Services are delivered however Avaya clients want and need them.

The Avaya Managed Services portfolio is a way for Avaya clients to accelerate new technology adoption, migrate to an OPEX financial arrangement with no upfront costs, reduce total cost of ownership, improve communications performance and reduce operational risks by simplifying their approach to unified communications, contact center, data, video, and hosted solutions.

Avaya clients can take advantage of our managed services either directly or indirectly throughout Avaya authorized partners. In either case, they can achieve real benefits through customized or market ready, packaged managed services solutions.

This portfolio for services includes the complete suite of IT Infrastructure Library elements, from basic monitoring, and event notification through system administration and capacity management.

We have also made major investments in a management platform designed to deliver quality of experience and applications management instead of simply managing devices.

The Avaya Managed Services portfolio includes two major components: Communications Managed Services and Communications Outsourcing Solutions.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Communications Managed Services	Includes:
Unified Communications Managed Services	Provides clients with a comprehensive set of globally aligned services and support for managing their enterprise communications infrastructure. It offers various levels of service to see that clients have the ability to buy at the level that best meets their needs.
Contact Center Managed Services	Offer an alternative solution to either complete outsourcing or total self-management of a client's contact center(s). This managed solution helps Avaya clients to reduce operational costs and simplify staffing complexities. It also adds IT Infrastructure Library aligned processes and proactive monitoring tools that allow the client to maintain operational flexibility and control. In this way, it helps accelerate the business benefits of Avaya advanced technologies and ease the adoption of future technologies. Contact Center Managed Services offer various levels of service to see that clients have the ability to buy at the level of service the best meets their needs.
Data Networking Managed Services	Provide the end to end management of a client's network devices, transport and protocols that interconnect multiple, geographically distributed client locations with data networking. Data Networking Managed Services offer various levels of services to see that clients have the ability to buy at the level of service that best meets their needs.
Video Managed Services	Allow customers to reap the benefits of full-immersion telepresence, or desktop video conferences. Video conferencing drives business productivity, offering face to face interaction without the downtime and cost of travel. Employees, customers, and suppliers can collaborate efficiently in easily scheduled face to face sessions, accelerating consensus and decision making. Avaya Video Managed Services makes sure that the solution is well implemented, reliable, and flexible.

Communications Outsourcing Solutions:

Avaya Communications Outsourcing Solutions go beyond standard Avaya Communications Managed Services. Not only will Avaya manage and optimize a client's existing infrastructure with IT Infrastructure Library aligned service elements, but we can also provide a transformation plan for any stage of the client's communications life cycle. With Communications Outsourcing Solutions, Avaya can:

- Manage and integrate a client's current environment to its specific custom requirements, such as service level agreements, reporting, billing, and help desk
- Implement the client's infrastructure migration to new solutions
- Offer flexible financial options that may include full operating expense models

Avaya Communications Outsourcing Solutions relieve client pain points around performance, risk, cost, and financial constraints.

- **Performance:** improved network and application efficiency and availability through global resources, certified and accredited engineers, and the revolutionary new Avaya service management platform (Avaya Matrix Management Platform). With improved performance and quality of end-user experience, clients can spend more time running their business and less time reacting to communications problems.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- **Risk:** resources, skill sets, and technology backed by Avaya expertise and scale. We make the investments in people, tools, and technology to meet the challenges of today and tomorrow in a rapidly changing world.
- **Cost:** improved total cost of ownership, typically between 15 and 20 percent annually, delivered through improved performance and reduced investment in tools, people, and processes. Clients can also benefit from improved operational productivity, contractually guaranteed availability and improved quality of service.
- **Financial constraints:** working together with clients and Avaya authorized partners, Avaya can offer innovative financial options to assist clients with meeting budgets and capital spending targets.

Avaya Communications Outsourcing Solutions offer many capabilities to manage a client's environment and meet their needs.

Communications Outsourcing Solutions	Capabilities
Customer Service Level Agreements	Communications Outsourcing Solutions provide flexible Service Level Agreements with remediation globally. Standard Service Level Agreements are defined by standard offers and meet typical requirements, while custom Service Level Agreements are tailored to meet a client's specific requirements. Avaya can report on the availability of products and metrics on services and ultimately turn any of those into custom Service Level Agreements. Avaya has the capability to set up service levels that meet and exceed client expectations.
Multivendor Support	With Communications Outsourcing Solutions, Avaya can support almost any vendor on any application in a client's environment. Common examples include: Alcatel-Lucent, Cisco, HP, IBM, Microsoft, and Siemens.
Flexible Procurement Options	Avaya can help clients transition to new technology with a pricing model that suits each client's needs. Pricing is on a utility model basis for example, per user per month and often can include no upfront payments or capital expenditure purchases. In addition, Avaya can provide custom client support with the following capabilities: • eBonding • Custom billing and reporting • Local engineering support • Dedicated onsite engineering • Software upgrade services

Features and Benefits

Managed Assist:

- **Service Monitoring**: the real time remote supervision of the supported products checking for availability, connectivity, Quality of Service, and thresholds of the supported products and following that with automated notification upon failure or incident.
- **Client Notification**: Notifications are automated via email to designated customer IT representatives. Depending on severity of the issue, follow-up phone calls may be required.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- **Configuration Management**: Configuration Management supports the following:
  - Device OS Configuration Ownership and Troubleshooting hardware, operating system, client management connection, and logical configuration status
  - Device OS configuration change support
  - OS configuration file archiving
  - Remote back-up's of all supported products prior to any configuration changes taking place. Note: State of Utah and the WSCA-NASPO Participating States are responsible for providing the data storage media and location

Optional:

- **Change Management**: The Avaya Change Management process will be developed to interlock with the State of Utah and the WSCA-NASPO Participating States Change Management process. Upon agreeing on this interlocking process Change Management will be responsible for the following:
  - Defining the required change
  - Measuring the impact of the proposed change
  - Developing a back out plan
  - Obtaining any relevant approvals for change
  - Scheduling the change
  - Testing the change as applicable
  - Implementing the change
  - Updating the Configuration Management Database
- **Release Management**: Release Management is used for automated distribution of software including license controls across the entire IT infrastructure. Proper software controls assure the availability of licensed, vendor tested, and version certified software, which functions as intended when introduced to into the existing infrastructure. Release Management also includes the following:
  - Planning associated with rolling out the software
  - Design and implementation procedures
  - Communication and management of customer expectations
  - Control of the distribution and installation of changes to the IT System

Standard Operate:

- **Service Monitoring**: the real time remote supervision of the supported products checking for availability, connectivity, Quality of Service, and thresholds of the supported products and following that with automated notification upon failure or incident.
- **Client Notification**: Notifications are automated via email to designated customer IT representatives. Depending on severity of the issue, follow-up phone calls may be required.
- **Configuration Management**: Configuration Management supports the following:
  - Device OS Configuration Ownership and Troubleshooting hardware, operating system, client management connection, and logical configuration status

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

  - Device OS configuration change support
  - OS configuration file archiving
  - Remote back-up's of all supported products prior to any configuration changes taking place. Note: State of Utah and the WSCA-NASPO Participating States are responsible for providing the data storage media and location

- **Change Management** - Avaya Change Management process will be developed to interlock with the customer's Change Management process. Upon agreeing on this interlocking process Change Management will be responsible for the following.
  - Defining the required change
  - Measuring the impact of the proposed change
  - Developing a back out plan
  - Obtaining any relevant approvals for change
  - Scheduling the change
  - Testing the change as applicable
  - Implementing the change
  - Updating the Configuration Management Database
- **Release Management** - Release Management is used for automated distribution of software including license controls across the entire IT infrastructure. Proper software controls assure the availability of licensed, vendor tested, and version certified software, which functions as intended when introduced to into the existing infrastructure. Release Management also includes the following:
  - Planning associated with rolling out the software
  - Design and implementation procedures
  - Communication and management of customer expectations
  - Control of the distribution and installation of changes to the IT System
- **Service Management** - Avaya will assign a Service Delivery Manager, who establishes processes with the customer, oversees issue resolution and sees that services are delivered in accordance with the agreed upon service levels.
- **Service Desk**: As a designated single point of contact for Level 2 support, Avaya manages communication with your help desk (Level 1). Avaya Service Desk function will coordinate incidents, service requests, and system administration functions for Avaya and third party solutions.
- **Incident Management**: Avaya will be responsible for opening and updating trouble tickets, trouble isolation and sectionalization, and tracking and managing an outage to closure.
- **Problem Management**: The Problem Management Team will provide daily (during the week) reviews of the previous 24 hours (72 hours on Monday) performance to include the handling of closed tickets, incident resolution, client interaction, and outstanding tickets. In addition chronic incident identification, a review of trouble ticket volume, type of tickets, and customer generated tickets.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Optional:

- **Help Desk**: Tier 1 helpdesk, standard is Tier 2 helpdesk where the customer has a Tier 1 helpdesk.
- **Capacity Management:** Make sure the customer has adequate equipment and network resources to support their business.

Time and Material

Customers with Avaya support coverage can receive support for services outside of specified coverage on a Per Incident basis. Avaya provides Per Incident support only to customers who have a support agreement in place with Avaya. When support coverage is in place, Per Incident support is provided on a per call basis when required outside the coverage terms of the Avaya Services Agreement.

Per Incident Maintenance support is available for any out of scope activities to include help line, administration, diagnostics, and onsite service support. Support is available for all products currently supported by Avaya, such as voice, data, messaging, converged solutions, application, and adjuncts.

Customers contact the Avaya Support Services organization to request Per Incident Maintenance support. Support Services will quote the applicable Per Incident charges to the customer. Rates vary based on the time the call is placed, the complexity of the equipment to be supported, and whether remote, or onsite support is selected. If the customer accepts the charges, the requested support is provided. When onsite maintenance support is required, the trouble ticket is routed to Field Services and the onsite response objective is provided. Customers and partners who do not have Avaya support coverage with Avaya on a product requiring support, do not have access to Per Incident technical support services.

5.3.1.2 Professional Services

Deployment Services

- Survey/ Design Services - Includes, but not limited to, discovery, design, architecture review/validation, and readiness assessment.

Avaya Response:

Avaya provides a project management process that will be tailored to meet specific requirements for the project. These processes have been proven time and again to be a reliable formula for a smooth and successful communications transition. Your specific requirements will be incorporated into the implementation phases outlined below enabling technical accuracy and compliance with the scope of the project.

Implementation Phases

The following is a summary of the primary project implementation phases:

- Pre-Contract Phase
  - Design assurance
  - Develop cutover dates
- Contract Phase
  - Review final design and Statement of Work
  - Confirm final cutover dates
- Planning Phase

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

  - Site Survey
  - IP Migration IP-Readiness Services Overview
  - Network Design and Network Assessment
  - Site Preparation
- Installation Phase
  - Solution Design and Development
  - Software Station Review Process
  - Avaya Communication Manager Solution Design and Configurations
  - Change Management
- Cutover Phase
- Post Cutover Phase
  - Register the systems with the Initialization and Administration System group in Denver
  - Perform Security review
  - Perform Quality Walkthrough
  - Deliver Preliminary Invoice
  - Close orders
  - Document Lessons Learned
  - Conduct Post-Cut Meeting

The phases are described in more detail below; each phase includes a description of the activities and resources required, along with clearly defined your responsibilities and Avaya responsibilities. Each phase will follow the Implementation Plan and schedule, which will be developed by the Avaya Project Manager with input from you. Assumptions and dependencies have been included to provide clarity where needed.

Pre-Contract Phase

During this initial phase, the project's scope will be determined. To accomplish this, Avaya will develop an Implementation Grid with you. This section represents the preliminary draft for initial preparations of this plan and strategy

- Develop the system design and submit to engineering for technical assurance and equipment room drawings and specifications.
- Develop the Statement of Work.
- Work with you to develop a schedule including cutover dates and payment plans.

Contract Phase

During this initial phase, the project's scope and design will be determined. To accomplish this, Avaya will develop an Implementation and Cutover Plan with you. This section represents the preliminary draft for initial preparations of this plan and strategy

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Finalize the system design and submit to engineering for technical assurance and equipment room drawings and specifications. Review this with you for approval.
- Review the Statement of Work and gain your approval.
- Develop a final schedule and contract for your approval.

This is also the time that you will appoint a Project Manager to act as a project liaison. Your Project Manger will work very closely with Avaya Project Management to:

- Identify your implementation team members, such as Departmental Coordinators, System Administrator, Trainers, and others.
- Obtain a signed contract.
- Interface with network and third-party vendors on any switch-related issues consistent with the Project Milestones schedule.
- Identify critical users and services to develop a temporary service plan during cutover.
- Develop and monitor a change management plan during software conversion.
- Develop a plan to educate end-users of differences on the new system.
- Prioritize changes and troubles.
- Identify day-of-cutover expectations.
- Monitor the equipment room preparation and completion prior to switch equipment delivery, such as structure, power, storage facilities, air conditioning, and lighting.
- Establish pre-cutover security of the site and for equipment.
- Conduct box inventory of equipment at the Material on Job date.
- Determine that station users attend onsite End User Training.

Because the telecommunications knowledge level of our customers is difficult to determine, it is impossible to determine what percent of the individual's days should be allocated to this project. This will be best determined once the information in the document is reviewed. Because of the complexity and duration of this project, it is suggested that initially at least 30% of the workday be allocated to this project. A Project Plan can be developed jointly prior to project inception, and that will better determine time allocation for all project contributors.

Planning Phase

Site Survey

An Avaya Provisioning Team member can perform a site survey to identify your specific installation needs to determine there are no significant changes since the due diligence walk-through.

The Avaya Program/Project Manager will work with your designated Project Liaison during the site survey process to develop a mutually agreed upon list of required milestone dates. Key activities will have to be performed by Avaya and the responsible organization by those designated dates to enable Avaya to meet the agreed to In-Service Date.

During the site survey, you will be required to provide access to all installation locations and provide site, circuit, and/or network information.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Network Readiness Assessment

Avaya is proposing that a Network Assessment be performed at the installation site. The surveys will be reviewed with you after completion. A Statement of Work will be developed that details the full scope of the assessment. From this testing, the Avaya Network Consulting Solutions organization should be able to gauge how well suited the network is to handle the requirements of a well-functioning voice over IP network to support the IP Telephony solution. Once the assessments are complete, Avaya Implementation Services will identify any problems and their roots causes, as well as define the requirements to eliminate potential issues that would affect Quality of Service.

If it is determined that the network is unable to handle the anticipated requirements, Avaya will work with you, at your request, to build an optimization plan. The network optimization plan will detail the recommendations needed for a successful implementation at all locations. This optimization will assist in resolving network issues, provide key decision making information, and enable the network to operate at its peak performance to meet current business demands and objectives. These recommendations will need to be implemented at each location prior to deploying IP Telephony at your location(s). To maintain continuity and the established expertise, you can engage Avaya Network Consultants to perform the necessary network optimization efforts. The associated charges for an optimization plan can be presented upon request.

Customer Responsibilities Assumptions/Dependencies

You are responsible for:

- Completing the Site Configuration Survey questionnaire per location and returning to the Avaya Implementation Services contact person.
- Downloading the Customer Infrastructure Readiness Survey Tool software. Network Consulting Services will instruct the customer how to download and run the Customer Infrastructure Readiness Survey tools to initiate the testing procedures. The Customer Interface Readiness Survey tool discovers the customer's network topology and examines different network elements in an IP telephony network. The tools measure key statistics, such as, round trip time to various points in the network, monitors router usage, and provides feedback that is sent back to Avaya where Network Consulting Services engineers will analyze the data and produce a report for the customer.
- Completing a Site Configuration Survey per sample set location.
- Identifying a project sponsor/main technical contact that will be available to Network Consulting Services throughout the project.
- Supplying any hardware or software, such as, additional equipment or software upgrades needed to optimize the network.
- Coordinating between Avaya and any of your third-party vendors.

Site Preparation

The Avaya Program/Project Manager will provide you with an equipment room checklist and specifications that will help identify any site preparation work that must be completed before the communications equipment is delivered. Activities to be performed by you include the inspection of the installation site and confirming site information. You will need to complete the Avaya site/equipment room checklist. This will outline site environment, circuit termination, and system checkpoints/prerequisites.

The Project Liaison will need to procure any necessary permits and approvals and comply with all safety and environmental requirements. Your preparation of the site for equipment installation will need to include a staging area as well as secure storage area for storing equipment during the project's installation cycle. You will also be responsible for making ready all locations for environmental, cable

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

infrastructure and network requirements, such as wall space, lighting, grounding, power, air conditioning, and equipment room space, as specified by Avaya.

Installation Phase

Solution Design and Development Service

You will need to provide any necessary information/planning forms to Avaya within the negotiated time frame as well as technical contacts as required to define the changes as outlined in the Statement of Work.

Deploying an enterprise networked IP communication solution is no small task. Avaya understands the mission, from network readiness to quality assurance and testing, and has proven the leadership with the most installed Voice IP endpoints compared to any other vendor in today's marketplace.

Software Station Review Process

Avaya Implementation Team Members, along with your liaison, will perform software station reviews. Software station reviews involve collection of station details and system, network, and trunking data necessary to operate the system.

Each voice terminal will be reviewed once during an interview with the Department Coordinator. Requests for changes to this station review must be negotiated with the Avaya Project Manager. Subsequently, Departmental Coordinators can assign the models to users within each department. Changes to the initial station review are available at an additional cost.

Network Design

In order to gather the System, Network, and Trunking data together, Avaya must determine DID numbers, Listed Directory Numbers, Feature Dial Access Codes, and station numbering plans for each system. If the system is part of a network, Avaya will need additional information to coordinate numbering throughout the network. The Avaya Project Team will work with you to finalize a Numbering Plan and to determine connectivity of trunk facilities. The System, Network, and Trunking data will be reviewed once. Changes to this data must be negotiated with the Avaya Project Manager and additional charges may apply.

In addition, if you requests call routing features, Avaya will help to determine the System, Network, and Trunking data requirements for ARS and AAR. The Avaya Software Specialist will familiarize you with Avaya standard service offerings for those. Requirements beyond the standard offering are available for an additional cost.

Avaya will have a qualified Network Engineer available to support all phases of the implementation from kickoff, pre-installation activities, implementation, testing, and training phases of this contract. The Network Engineer will assist in activities associated with VoIP implementation, infrastructure evaluation, security, and network assessments.

The following subsections have been provided as a high level overview of the deployment solution.

Avaya Aura® Communication Manager Solution Design and Configurations

The Avaya Aura® Communication Manager solution has been designed with a deployment model which maximizes the synergies of having a centralized server arrangement.

During the Planning Phase, your team member and the lead Avaya Software Specialist will collaborate to establish the overall design and architecture for the Server configuration. Once the design has been approved and all translations created for the Servers and Voice Mail Servers, the lead software specialist will download the electronic translation document files. These electronic design documents will be used throughout the life cycle of the project, as well as to provide As Built documentation for post-cutover support and maintenance repair. This will provide cutover readiness documentation as well as provide support personnel with accurate data for testing and reference.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Prior to cutover, the Software Specialist will pull the project documents from the central storage server and verify the names and trunking facility IDs. User names will be added to the media server translations and voice mail server respectively and downloaded. All documentation will be updated and filed. All required handoff deliverables will be verified as received for cutover deployment, such as, site survey sign-off, topology completed, Remote Feature Activation License on file, network assessment on file, and local facilities verified.

If required, a Contact Center Consultant may be assigned to remotely build a Contact Center. The Contact Center Consultant will work with you to design call flow, vectors, hunt groups, agent profiles, agent login IDs, and vector directory numbers as well as perform a high level overview of Supervisor functionality.

Field Customer System Engineers will be assigned to the Server location for deployment. At the Main Distribution Frame site, the Customer System Engineer and the Software Specialist will coordinate and complete the Quality Assurance Testing plan. Once the gateways are connected and sending information back and forth to the main server complex, Avaya Customer System Engineers will begin placing the new terminals at the desktop. All VoIP terminals will be placed and connected verifying connectivity to the TFTP server, DHCP server, and host system. Allowing the placement of the terminals prior to cutover will allow the end users to place internal calls to associates who also have had both the terminal installed at the desktop and have received end user training. This will instill some comfort level in the use of the new solution. The users will get a hands-on view of the new terminals and become accustomed to the look and feel prior to cutover.

Avaya will perform the following activities during staging:

- Receive, inventory, unpack, and inspect equipment.
- Notify Project Manager of receipts, overage, shortages, and damages. (Damaged or defective equipment will be processed under provisions of the product warranty.)
- Verify equipment is in accordance with the information contained in the Service Request and manufacturer's specifications.
- Perform basic connectivity and application interaction testing:
  - Basic Connectivity Testing from the servers to the various gateways and the represented end point devices, such as, IP hard phones, IP soft phones, DCP stations, analog stations, and DHCP/TFTP servers. Base translations supporting the IP network and represented end devices will also be tested.
  - Application Interaction Testing includes FTP, TFTP, SNMP, Telnet, HTTP, and Avaya Integrated Management, as well as Application Interaction Testing of the base translations supporting each of these applications with represented layer 2/layer 3 devices and end points.
- Implement network assessment recommendations/objectives from the Avaya network design; the actual translation design of the VoIP voice switch and voice terminals will be handled by the Avaya software specialist.
- Upgrade equipment to the required software load, including patches.
- Load all configurations and options as described in the Installation Specification.
- Test all equipment in a controlled network environment.
- Verify proper operation of all components.
- Label cables.
- Label equipment with customer-provided asset tags, if applicable.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Power down all equipment under test.
- Provide receiving/inventory/shipping reports and installation specifications to Project Manager.

The information contained within the detailed output document is utilized by the field Customer System Engineer at the time of installation. This document is then retained for maintenance support.

Your responsibilities include:

- Making arrangements for the delivery of any non-Avaya-sold equipment to site.
- Preparing the site for equipment installation.
- Providing an accurate list of site addresses, contact names, and phone numbers.
- Providing input to network design utilized to complete configuration and option parameters.
- Providing cable pair assignment from the present stations to the MDF cable pairs for the analog voice terminals. (This is optional if Avaya performs Tone and Tag.).

If Avaya installs the voice terminals, Avaya will test for proper extension number, terminal type, and the name associated with that voice terminal. Any comprehensive testing of the voice terminals beyond the basic features listed previously can be done by Avaya; however, additional charges would apply.

Additional translation changes, such as voice terminal button features, system features, trunking changes, vectoring designs, or dial plan changes will require Change Control Authorization from both you and Avaya before the Software Specialist can make changes.

Change Management

Change Management generally occurs throughout the project lifecycle. Any time the project requirements move beyond the original scope defined for the project, or when segments of a project are considered completed and modifications or additions are requested, the change management process will be utilized. Changes, which your Project Manager requires for hardware, software, or labor to be incorporated into either the final branch location system configuration or for a stand-alone site, must be submitted to the Avaya Project Manager. If a delay occurs due to these changes, it may affect a negotiated project timeline date, such as the Material on Job date. Your Project Manager must approve any changes via a signed Change Order Form, which will be provided by the Avaya Project Manager, as stipulated in the Statement of Work (and may be dependent on the dollar amount of the change). Upon receipt of a signed Change Order Form, the add-ons or changes will be scheduled for the respective site. These changes might not be implemented prior to cutover depending on the time/date of the request submitted. All considerations will be made to support the needs of the business.

- Hardware and software RTU changes requested after the contract is signed and prior to the firm order transmit to the factory will be handled via a change order form prepared by Avaya Implementation Services and signed by you. This change will then be applied to the configuration prior to the factory starting the product build.
- Should a change in hardware or software RTU be required once the factory has started the build, or has completed the product, a new order will be generated per the change control document. The factory will individually scrub these subsequent orders. Software RTU changes may not be time line impacting unless additional activities are required to fully realize the RTU changes.
- Software activities, following the negotiated time lines, allow for the preparation of the software files to be prepared by Avaya Implementation Services. A software translation Change Management process developed with you and Avaya will be initiated once the Communication Manager/Messaging or stand-alone site designs and configurations have been completed to allow for the preparation of the modified software files.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Labor activity requested outside of the initial scope of work will also be handled via the Change Management process.

Cutover Phase

The Transition/Cutover Plan brings together all procedural information necessary for a smooth transition to the new Avaya provided Systems. The plan is a joint effort between the Avaya Project Team and your organization. It represents the tasks, priorities, and reference procedures controlling the flow of the cutover.

Cutover Activities include those functions related directly to the actual placement of the new system in service. This includes the preparation of the cutover plan, identification of essential lines and services, if applicable, coordination with the telephone companies and other Common Carriers, activation of the switch, and installation testing activities.

The Cutover Date will be mutually agreed upon prior to the start of work. Prior to the cutover phase, Avaya will provide a Project Manager to work with your Project Liaison and representatives to complete a detailed cutover plan. The cutover plan will be customized as required throughout the project. Avaya has included a detailed deployment schedule of this proposal.

It is also important to note that every plan must have continuous monitoring and adjustments to enable compliance to meet the scheduled dates and commitments both by you and Avaya.

Post-Cutover Phase

Post-Cutover Activities include the establishment of the customer assistance desk, receipt and resolution of trouble reports, removal of old equipment (if appropriate), performance of final acceptance tests, and final hand-off of the system to the customer and the local Avaya Support Services crew. In addition, Avaya will act upon any open-ended items including any changes to the equipment orders. Avaya will conduct a final walk-through with the customer, obtain signatures on test and acceptance results, and present the final order to be billed out.

During the Post-Cutover Phase, Avaya will:

- Register the systems with the Initialization and Administration Systems.
- Perform a security review.
- Perform a quality walkthrough.
- Deliver the preliminary invoice.
- Close orders.
- Document lessons learned.
- Conduct a post-cut meeting.

- Implementation Services - Includes, but not limited to, basic installation and configuration or end-to-end integration and deployment.

Avaya Response:

Avaya Client Services provides the vital expertise, tools, and resources to perform the project management, design, integration, and implementation of Avaya products and solutions. Choosing a partner that brings experience, knowledge, and processes that can be duplicated globally increase the likelihood for success. Avaya Project Managers employ industry-standard and internationally recognized Project Management Institute (PMI) methodology. Avaya Client Services provides a comprehensive implementation solution including:

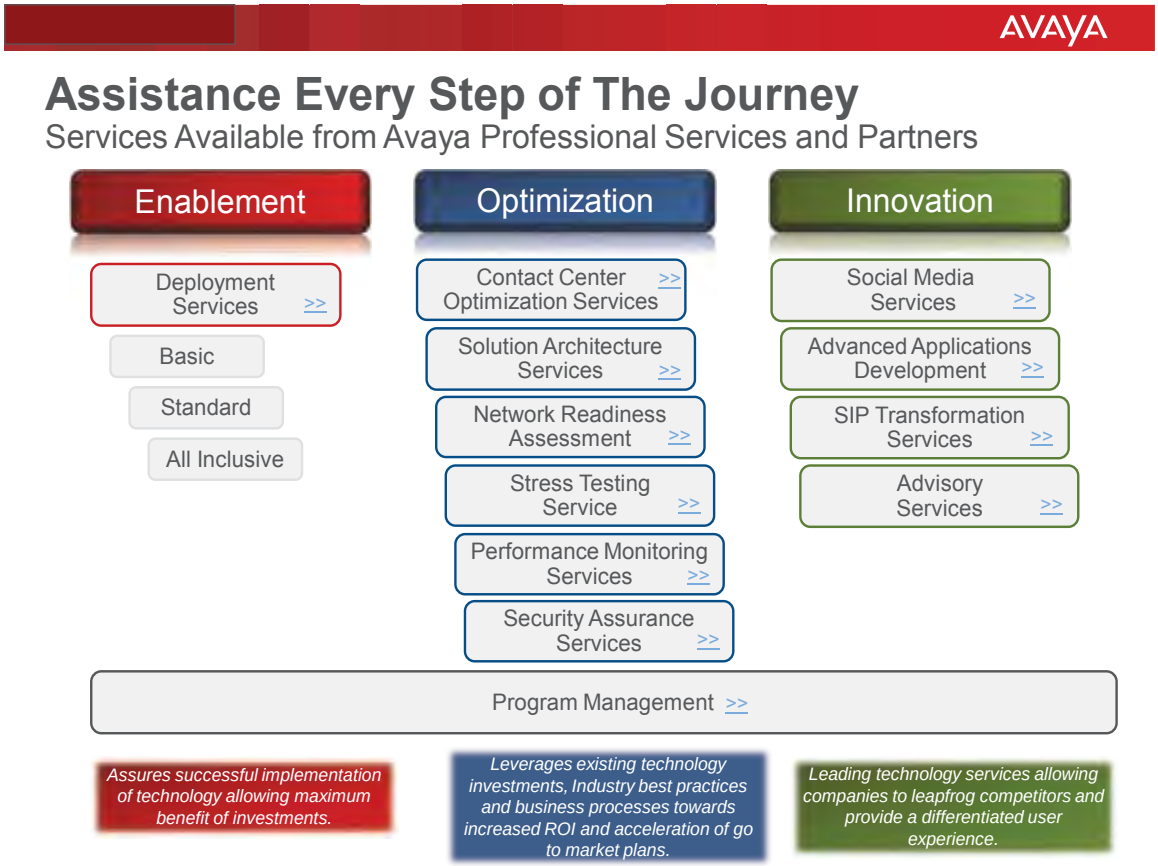
©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Program Management (Single Point of Contact and Accountability)
- Network Consulting (Network Readiness Assessment, if applicable)
- Integration and Configure-to-Order Staging
- Hardware Installation
- Software Configuration
- Technical Training and Knowledge Transfer
- Technical Support

Avaya will provide project management, online documentation, and technical expertise to enable a successful solution implementation, which means a project delivered within scope, on-time, and cost effectively for you.

Avaya Client Services employs experienced services professionals to perform system implementations and project management. Avaya has identified the skills required, placed people that possess those skills in the positions necessary, and assigned them the tasks required to fulfill their part. The implementation process is a step-by-step guide that delineates the roles, responsibilities, and time frames required for a successful communications system proposal, delivery, and installation. These proven implementation steps will be incorporated with your requirements, tailored to meet specific requirements, and reviewed with you in advance to enable technical accuracy and full compliance with the solicitation.

Figure 5.3.1.2-1 Implementation



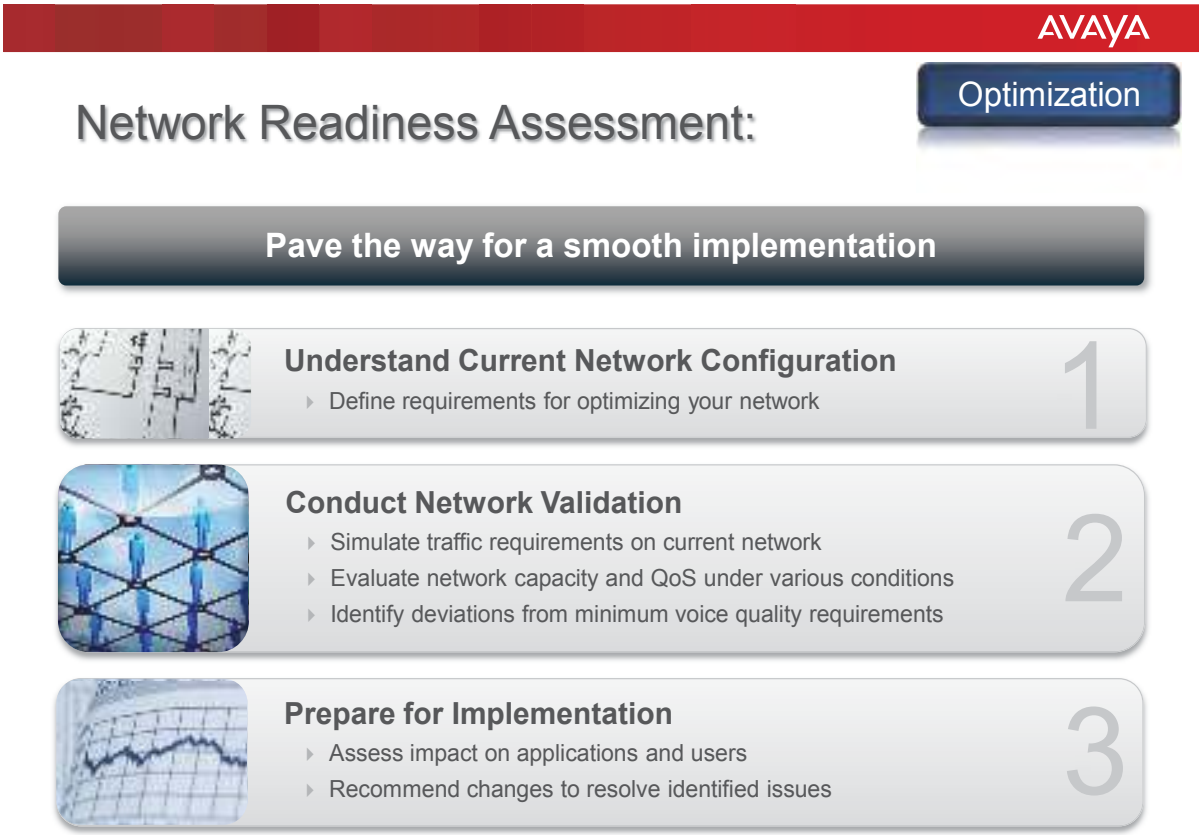
©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

- Optimization - Includes, but not limited to, assessing operational environment readiness, identify ways to increase efficiencies throughout the network, and optimize Customer's infrastructure, applications and service management.

Avaya Response:

Avaya will setup threshold criteria based on the performance reporting capabilities of the service with the end client prior to service inception. On a regular basis, Avaya will monitor the reports being generated specific to that customer and notify when certain thresholds have been met or exceeded. Depending on the end client capabilities and roadmap, Avaya will set up time to discuss options to either upgrade/transition various resources, or to reset thresholds. This service is included in section 5.3.1.1 Avaya Operation Services (Managed Services).

Figure 5.3.1.2-2 Network Readiness



- Remote Management Services - Includes, but not limited to, continuous monitoring, incident management, problem management, change management, and utilization and performance reporting that may be on a subscription basis.

Avaya Response:

See Section 5.3.1.1 which describes Avaya Operation Services (Managed Services).

Figure 5.3.1.2-3 Performance Monitoring

- Consulting/Advisory Services - Includes, but not limited to, assessing the availability, reliability, security and performance of Customer's existing solutions.

Avaya Response:

Avaya Professional Services can help evaluate and extend the value of your communications solutions through phases: Plan and Design; Develop and Integrate; Test, Train, and Deploy, and Optimize.

Develop and Integrate

- Technical Advisory Services provide access to Avaya Advanced Solution Architects for technical architecture validation.
- Network Readiness Assessment helps confirm that your network is prepared prior to implementing a new project.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Figure 5.3.1.2-4 Advisory Services

- Data Communications Architectural Design Services - Developing architectural strategies and roadmaps for transforming Customer's existing network architecture and operations management.

Avaya Response:

Avaya offers a full range of services for design, build, operate and maintain according to the needs and specifications of your organization, products and vendors, as well as geography and scope of work. These service components can be broken out individually engaging Avaya consulting services, professional services and global services for the three components involved or your organization can choose to pursue a fully managed services offering where Avaya can design, build, and operate the entire network on behalf of a customer.

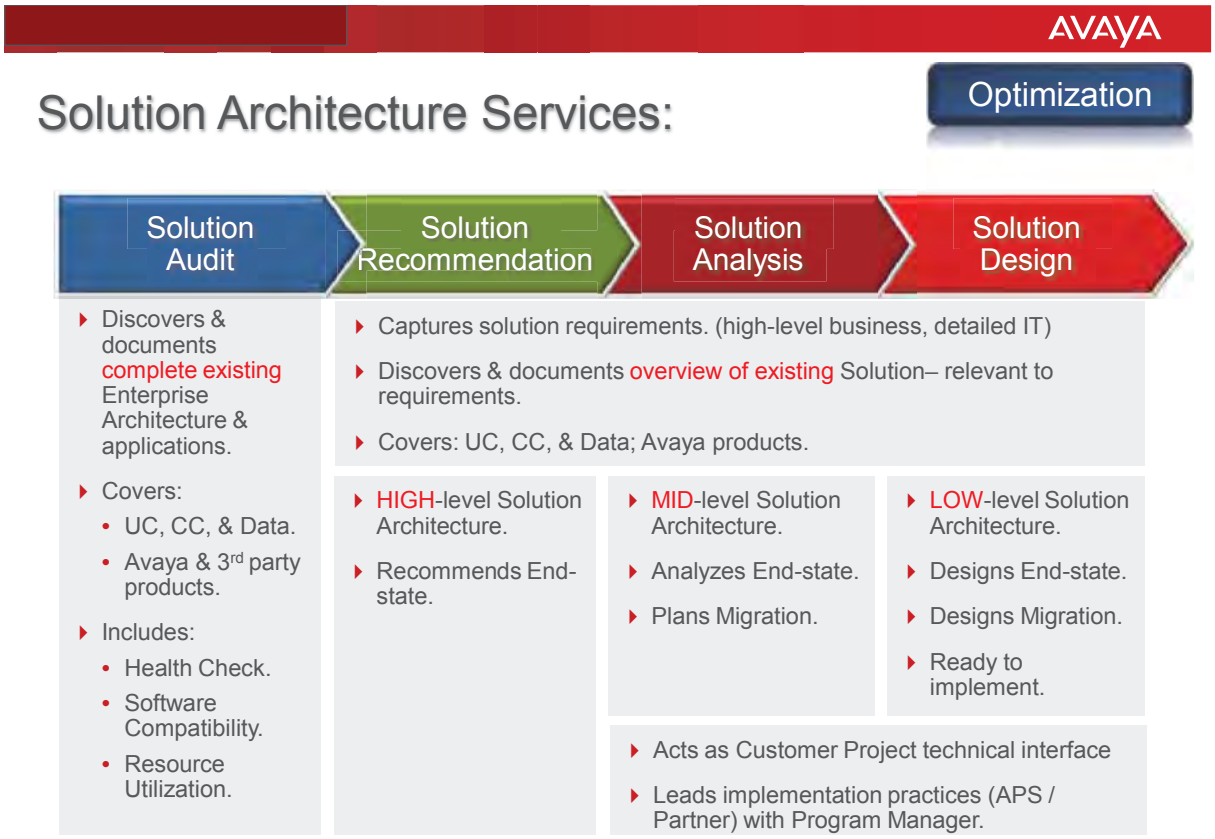
Avaya Virtual Enterprise Network Architecture was publicly announced in November 2010. Virtual Enterprise Network Architecture is a pervasive architecture flexibly supporting data center, enterprise, and campus deployments, as well as metropolitan and wide area deployments based on optical Ethernet infrastructures. Shortest Path Bridging is the technology that is at the core of Avaya Virtual Enterprise Network Architecture.

Support of Virtual Enterprise Network Architecture and the Shortest Path Bridging technology is being phased in across virtually all Avaya Networking Solutions product families. The Ethernet Routing Switch 8800, Virtual Services Platform 9000, and Virtual Services Platform 7000 support Shortest Path Bridging.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Further enhancements to the Avaya Ethernet Routing Switch stackable product families as well as the Secure Router platforms will also support Shortest Path Bridging. Even prior to software releases supporting Shortest Path Bridging, Ethernet Routing Switch stackable switches support the Virtual Enterprise Network Architecture through Shortest Path Bridging interoperability with Layer 2 switching and IP routing, VLAN trunking, and Avaya switch clustering resiliency.

Figure 5.3.1.2-5 Solution Architecture Services



- Statement of Work (SOW) Services - Customer-specific tasks to be accomplished and/or services to be delivered based on Customer's business and technical requirements.

Avaya Response:

During this initial phase, the project's scope and design will be determined. To accomplish this, Avaya will develop an Implementation and Cutover Plan with you. This section represents the preliminary draft for initial preparations of this plan and strategy:

- Finalize the system design and submit to engineering for technical assurance and equipment room drawings and specifications. Review this with you for approval.
- Review the Statement of Work and gain your approval.
- Develop a final schedule and contract for your approval.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

This is also the time that you will appoint a Project Manager to act as a project liaison. Your Project Manger will work very closely with Avaya Project Management team.

Figure 5.3.1.2-6 Delivery Excellence

5.3.1.3 Partner Services - Provided by Contractor's Authorized Partners/Resellers.

Subject to Contractor's approval and the certifications held by its Partners/Resellers, many Partners/Resellers can also offer and provide some or all of the Services as listed above at competitive pricing, along with local presence and support. As the prime, Contractor is still ultimately responsible for the performance of its Partners/ Resellers. Customers can have the option to purchase the Services to be directly delivered by Contractor (OEM) or its certified Partners/Resellers.

Avaya Response:

All proposed services will be provided by Avaya.

5.3.1.4 Training - Learning offerings for IT professionals on networking technologies, including but not limited to designing, implementing, operating, configuring, and troubleshooting network systems pertaining to items provided under the master agreement.

Avaya Response:

Avaya Learning develops and delivers high quality training for Avaya products and solutions for the learning needs of customers as well as employees. These courses are elements of a blended learning solution that includes instructor led training, virtual instructor led training, online web training, assessments, and certifications delivered in training centers globally:

- Instructor led training represents a traditional course facilitated by an instructor and delivered in a classroom setting at an Avaya training location (typically eight students per course) or at a customer location (typically six students per course).
- Virtual instructor led training (via Interwise) is a secure e-learning collaboration tool where a moderator or instructor generates a virtual classroom that allows up to 30 participants to interact regardless of their geographic location.
- Online courses offer a self-paced, web-based format accessible from the Avaya learning center.
- Assessments are online evaluations that test the student's comprehension of the course material.
- Certification exams are a requirement for earning a certification.

Avaya Learning offers curriculum maps which organize training into a recommended path of courses that build your skills in Avaya solutions and other topics of interest; courses are categorized by either solution/product training or role training.

Avaya training facilities are located in various US and international locations. Avaya will work with the State of Utah and the Participating States to develop a training program that meets the product requirements and specification. Avaya provides a complete and comprehensive set of training literature for all of the training courses provided.

A curriculum typically starts with web-based courses and culminates with an instructor led training workshop. Course formats are selected based on the level of performance required by the learner and complexity of the content. Audience needs and constraints are also considered when selecting course formats.

5.3.2 ADDING PRODUCTS

The ability to add new equipment and services is for the convenience and benefit of WSCA-NASPO, the Participating States, and all the Authorized Purchasers. The intent of this process is to promote “one-stop shopping” and convenience for the customers and equally important, to make the contract flexible in keeping up with rapid technological advances. The option to add new product or service categories and/items will expedite the delivery and implementation of new technology solutions for the benefit of the Authorized Purchasers.

After the contracts are awarded, additional IT product categories and/or items may be added per the request of the Contractor, a Participating State, an Authorized Purchaser or WSCA-NASPO. Additions may be ad hoc and temporary in nature or permanent. All additions to an awarded Contractor or Manufacturer’s offerings must be products, services, software, or solutions that are commercially available at the time they are added to the contract award and fall within the original scope and intent of the RFP (i.e., converged technologies, value adds to manufacturer’s solution offerings, etc.).

Avaya Response:

Understood.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

5.3.2.1 New Product from Contractors - If Contractor, a Participating State, an Authorized Purchaser or WSCA-NASPO itself requests to add new product categories permanently, then all awarded Contractors (Manufacturers) will be notified of the proposed change and will have the opportunity to work with WSCA to determine applicability, introduction, etc. Any new products or services must be reviewed and approved by the WSCA-NASPO Contract Administrator.

Avaya Response:

Understood.

5.3.2.2 Ad Hoc Product Additions - A request for an ad hoc, temporary addition of a product category/item must be submitted to WSCA-NAPOS via the governmental entity's contracting/purchasing officer. Ad hoc, temporary requests will be handled on a case-by-case basis.

Avaya Response:

Understood.

5.3.2.3 Pricelist Updates - As part of each Contractor's ongoing updates to its pricelists throughout the contract term, Contractor can add new SKUs to its awarded product categories that may have been developed in-house or obtained through mergers, acquisitions or joint ventures; provided, however, that such new SKUs fall within the Contractor's awarded product categories.

Avaya Response:

Understood.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Section 6: Evaluation

6.1 General Information

Proposals will be evaluated for completeness and compliance with the requirements of this RFP by a sourcing team. The sourcing team may engage additional qualified individuals during the process to assist with technical, financial, legal, or other matters.

Except at the invitation of the sourcing team, no activity or comments from Offerors regarding this RFP shall be discussed with any member of the sourcing team during the evaluation process. An Offeror who contacts a member of the sourcing team in reference to this RFP may have its proposal rejected.

Each proposal must be submitted in Microsoft Word or Excel, or PDF labeled and organized in a manner that is congruent with the section number, headings, requirements, and terminology used in this RFP. Proposal documents must be use Arial font size 10. All proposals must be submitted in electronic form.

Avaya Response:

Understood.

6.2 Administrative Requirements Compliance

The sourcing team will evaluate each proposal for compliance with administrative requirements. Non compliance with any of these requirements will render a proposal non-responsive. Only those proposals that pass the administrative requirements will be evaluated further.

In order to pass the Administrative Requirements, the following must be received by due date and time associated with this RFP as listed in Bid Sync.

Avaya Response:

Understood.

6.2.1 References

Vendor must provide a least three current account references for which your company provides similar Data Communications services for private, state and/or large local government clients (preferably government/public entities). Offerors are required to submit Attachment B - Reference Form, for business references. The business providing the reference must submit the Reference Form directly to the State of Utah, Division of Purchasing. It is the offeror's responsibility to ensure that completed forms are received by the State of Utah Division of Purchasing on or before the proposal submission deadline for inclusion in the evaluation process. Business references not received, or not complete, may adversely affect the offeror's score in the evaluation process. The Purchasing Division reserves the right to contact any or all business references for validation of information submitted.

Avaya Response:

Below is a list of the customers we have sent the updated Attachment B to fill out and return to the Purchasing Division for the State of Utah.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Customer	Contact	Phone	Title
University of Washington	Roland Rivera	206-543-2276	Director, Networking Strategy and Telecommunications
Salt Lake City Airport	Lisa Oldham	801-575-2921	Airport IT Manager
Salt Lake City Airport	Alan Rohlfing	801-575-2495	Airport Telecom Manager
Weber County	Leonard Call		IT Director
Box Elder County	Nathan Hammer		Network and Telecom Manager
Granite School District	Dale Robert	385-646-4588	IT Director

6.3 Minimum Scope Requirements Compliance

The sourcing team will evaluate each proposal that passed the administrative requirements for compliance with Section 5.2 Data Communications Services – Requirements. Scope requirements are evaluated in terms of the breadth and depth of the offeror proposal for each of the section 5.2.1-5.3.0 Scope categories. Only those proposals in each section that score 70% or better will move on to cost evaluation.

Avaya Response:

Understood.

6.4 Evaluation Criteria

The following table details how each proposal shall be evaluated on a basis of 100 points.

An evaluation committee comprised of representatives from some WSCA-NASPO member States will be appointed by the WSCA-NASPO Contract Administrator to perform the proposal evaluation.

All Offeror's proposals will be initially reviewed for compliance with the mandatory general requirements in Section 3 and Sections 5.1.1-5.1.5 stated within the RFP. Any proposal failing to meet one or more mandatory requirement(s) will be considered non-responsive and deemed "unacceptable", and will be eliminated from further consideration.

Those proposals deemed "acceptable" or "potentially acceptable" will be evaluated against the following proposal evaluation criteria using a point-based scoring methodology. Proposal evaluation criteria are listed in relative order of importance:

Avaya Response:

Understood.

6.4.1 Cost – (bid sheets including discounts off list price attached) – 30%

Given that technology products generally depreciate over time and go through typical product lifecycles, it is more favorable for customers to have prime contracts be based on minimum discounts off the Offeror's' commercially published pricelists versus fixed pricing. In addition, Offerors must have the ability to update and refresh their respective price books, as long as the agreed-upon discounts are fixed. Minimum guaranteed contract discounts do not preclude

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

an Offeror and/or its authorized resellers from providing deeper or additional, incremental discounts at there sole discretion.

Avaya Response:

Understood.

6.4.1.1 Refurbished Equipment – Many IT manufacturers offer refurbished equipment at a substantially lower cost with attractive warranties that also address risk concerns some customers may have with refurbished gear. Offerors may add an optional provision for manufacturer-certified refurbished equipment to be available for procurement under this contract. This offering will not be evaluated as part of the cost scoring process.

Avaya Response:

Understood.

6.4.2 Demonstrate ability to provide products and services within scope of the RFP (Section 5.2-5.31) – 25%

Avaya Response:

Understood.

6.4.3 Qualifications, technical ability, maintenance, training and value added services – 10%

Avaya Response:

Understood.

6.4.4 Ability to supply to WSCA / NASPO member states/geographical coverage -10%

Avaya Response:

Understood.

6.4.5 Offer profile and references (i.e., financial stability, presence in marketplace, adequate staff, marketing efforts etc.) – 20%

Avaya Response:

Understood.

6.4.6 Administrative (i.e., report generating ability, e-commerce, account reps, problem resolution, customer satisfaction, website hosting and other administrative related issues) – 5%

At the option of the evaluation committee the WSCA-NASPO Contract Administrator may initiate discussion(s) with Offerors who submit responsive or potentially responsive proposals for the purpose of clarifying aspects of the proposal(s), however, proposals may be evaluated without such discussion(s). Such discussion(s) is not to be initiated by Offerors.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Based on the competitive range of the evaluation scores, the evaluation committee may choose to make a “finalist list” of offeror’s; if opted for, all offeror’s will be notified of their status at this juncture by the Procurement Manager.

Finalist Offeror’s may be required, at the option of the evaluation committee, to present their proposals and possibly demonstrate their Internet website to the evaluation committee. The Procurement Manager will schedule the time and location for each Offeror presentation. Each Offeror presentation will be of equal duration for all offeror’s and may also include an additional amount of time reserved for questions/answers.

The sourcing team will evaluate each proposal that has passed the administrative requirements and met or exceeded the Section 3 and Section 5.1.1-5.1.5 Mandatory Requirements.

Avaya Response:

Understood.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

WSCA-NASPO Data Communications Equipment and Associated Products #JP14001

Firm Name: __Avaya Inc.__

Section Number: _____

Evaluator: _____

Date: _____

Score will be assigned as follows:
0 = Failure, no response
1 = Poor, inadequate, fails to meet requirement
2 = Fair, only partially responsive
3 = Average, meets minimum requirement
4 = Above average, exceeds minimum requirement
5 = Superior

* Purchasing will use the following cost formula for the "Services": The points assigned to each Offeror's cost proposal will be based on the lowest proposal price. The offeror with the lowest Proposed Price will receive 100% of the price points. All other Offerors will receive a portion of the total cost points based on what percentage higher their Proposed Price is than the Lowest Proposed Price. An Offeror who's Proposed Price is more than double (200%) the Lowest Proposed Price will receive no points. The formula to compute the points is: Cost Points x (2-Proposed Price/Lowest Proposed Price).

Purchasing will use the following cost formula for the "Product Offering Discount Percentage": The points assigned to each Offeror's cost proposal will be based on the highest discount percentage. The Offeror with the highest discount percentage will receive 100% of the price points. All other Offerors will receive a portion of the total cost points based on what percentage lower their discount percentage is than the highest discount percentage. An Offeror who's Proposed percentage discount is less than double (200%) the highest discount percentage will receive no points. The formula to compute the points is: Cost Points x (2- Highest Proposed Discount/Proposed Discount).

		Score (0-5)	Weight	Points
1. Demonstrated Ability to meet scope of requirements (25 points possible)		-------	-------	
Scope and Varity of products provided	8 points possible		X 1.6	
Experience and technical ability of manufacturer	7 points possible		X 1.4	
Maintenance Program	2 points possible		X .40	
Training Program	2 points possible		X .40	
Service Program	2 points possible		X .40	
Demonstrate Effective Reseller Program managed by the manufacturer in WSCA / NASPO States	4 points possible		X .80	
2. Demonstrate Qualifications and Technical Ability (10 points possible)		-------	--------	
Technical Staff Qualifications	2 points possible		X .40	
Maintenance Staff Qualifications	2 points possible		X .40	
Training Staff Qualifications	2 points possible		X .40	
Technical Suitability of Products	4 points possible		X .80	
3. Demonstrate ability to supply WSCA / NASPO member States (10 points	10 points possible		X 2	

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

		Score (0-5)	Weight	Points
possible)				
4. Company profile and references (20 points)		-------	--------	
Financial Statements and Records	10 points possible		X 2	
References, Reputation, Breadth and Depth of Offering	10 points possible		X 2	
5. Demonstrate ability to provide administrative support (5 points possible)	5 points possible		X 1	
6. Cost (30 points possible)* Services (10 Points) Product Offering Discount Percentage (20 points)	30 points possible	-------	--------	***Inserted By Purchasing**
TOTAL EVALUATION POINTS	**(100 points possible)**		**Total**	

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Section 7: Master Agreement Terms and Conditions / Exceptions

7.1 WSCA-NASPO Master Agreement Terms and Conditions

7.1.1 The WSCA-NASPO Contract Administrator referred to in section 2 of the WSCA¬NASPO Master Agreement Terms and Conditions is Debra Gunderson, State of Utah Division of Purchasing and General Services. This RFP represents the WSCA-NASPO Contract Administrator's written approval of the modifications, waivers, alterations, amendments, and supplements to the Master Agreement Terms and Conditions made in this RFP and this Section 7.

Avaya Response:

Understood.

7.1.2 Except as limited in this section or elsewhere in this RFP, Participating Entities who execute a Participating Addendum may alter, modify, supplement, or amend the WSCA¬NASPO Master Agreement Terms and Conditions as necessary to comply with Participating Entity law or policy with respect to their orders under the Master Agreement. A Contractor may not deliver Products or perform services under this Master Agreement until a Participating Addendum acceptable to the Participating Entity and Contractor is executed. The WSCA-NASPO Terms and Conditions are applicable to any order by a Participating Entity, except to the extent altered, modified, supplemented or amended by a Participating Addendum. By way of illustration and not limitation, this authority may apply to unique delivery and invoicing requirements, confidentiality requirements, defaults on orders, governing law and venue relating to orders by a Participating Entity, Indemnification, and insurance requirements. Statutory or constitutional requirements relating to availability of funds may require specific language in some Participating Addenda in order to comply with applicable law. The expectation is that these alterations, modifications, supplements, or amendments will be addressed in the Participating Addendum or, with the consent of the Participating Entity and Contractor, may be included in the commitment voucher (e.g. purchase order or contract) used by the Participating Entity to place the order.

Avaya Response:

Understood.

7.1.3 The term Purchasing Entity and Participating Entity shall both mean "Participating Entity" as that term is defined in WSCA-NASPO Master Agreement Terms and Conditions.

Avaya Response:

Understood.

7.1.4 With respect to section 11, Indemnification, the terms of any Participating Addendum may alter, modify, supplement, or amend the language in section 11 and may include a limitation of liability mutually agreeable to the Participating Entity and the Contractor.

Avaya Response:

Understood. Reference WSCA-NASPO Master Terms and Conditions, Section 11 and 15 for Avaya's requested exceptions.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

7.1.5 With regard to section 20, Participants, Participating Entities who are not states may under some circumstances sign their own Participating Addendum, subject to the approval of the Chief Procurement Official of the state where the Participating Entity is located. Contractors may upon request obtain a copy of the written authorization from the WSCA-NASPO Contract Administrator.

Avaya Response:

Understood.

7.2 Offeror Exceptions to Terms and Conditions

7.2.1 The Lead State discourages exceptions to contract terms and conditions in the RFP, attached Participating Entity terms and conditions (if any), and the WSCA-NASPO Master Agreement Terms and Conditions. As specified in this RFP, exceptions may cause a proposal to be rejected as nonresponsive when, in the sole judgment of the Lead State (and its evaluation team), the proposal appears to be conditioned on the exception or correction of what is deemed to be a deficiency or unacceptable exception would require a substantial proposal rewrite to correct. Moreover, Offerors are cautioned that award may be made on receipt of initial proposals without clarification or an opportunity for discussion, and the nature of exceptions would be evaluated. Further, the nature of exceptions will be considered in the competitive range determination if one is conducted. Exceptions will be evaluated to determine the extent to which the alternative language or approach poses unreasonable, additional risk to the state, is judged to inhibit achieving the objectives of the RFP, or whose ambiguity makes evaluation difficult and a fair resolution (available to all vendors) impractical given the timeframe for the RFP.

Avaya Response:

Understood.

7.2.2 The Lead State will entertain exceptions to contract terms and conditions in this RFP, including the WSCA-NASPO Master Agreement Terms and Conditions. Offerors are strongly encouraged to be judicious in identifying exceptions.

Avaya Response:

Understood. Please see Avaya's requested exceptions within the WSCA-NASPO Master Terms and Conditions and the State of Utah Standard Information Technology Terms and Conditions.

7.2.3 Based on the market research conducted by the Lead State, the following provisions are intended to frame the contours of exceptions that may be acceptable, additional risk so long as the Offeror's exceptions are specified with sufficient particularity.

Avaya Response:

Understood.

7.2.4 The Lead State will consider Offeror standard terms for inspection and acceptance, so long as a reasonable time for acceptance is stated. However, the Participating Entities right to exercise revocation of acceptance under its Uniform Commercial Code must be preserved. Submit the standard terms with the offer and describe generally how commerciality in their use is

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

established, e.g., identify publicly-available catalogs where the warranty terms are used and how long they have been in use.

Avaya Response:

Understood. Please see Avaya response clause to Section 8 (Delivery) and New Section 34 (Contractor's Implementation and Professional Services Terms), Subsection 34.2 (Acceptance) in the WSCA-NASPO Master Agreement Terms and Conditions for Avaya's exceptions.

7.2.5 The Lead State will consider standard warranty and/or maintenance terms, but the alternative warranty and/or maintenance will be evaluated to determine whether they provide comparable protection to the warranty specified in section 30 of the WSCA-NASPO Master Agreement Terms and Conditions. Provide the terms of the warranty and maintenance in the offer. Also describe generally how commerciality is established for those terms, e.g., publicly-available catalogs the warranty terms are used and how long they have been in use. Provide one reference from a customer having comparable sales volume who is using the warranty and maintenance provisions, where the warranty term has expired, and who has exercised rights under the warranty.

Avaya Response:

Understood. Please see RFP Section 4.2 and the WSCA-NASPO Master Agreement Terms and Conditions Section 30 for Avaya's requested exceptions with regards to Avaya's standard warranty.

In addition, please see Avaya's requested exceptions to add a new Section 33 to the WSCA-NASPO Master Agreement Terms and Conditions, titled, Avaya's Maintenance/ Managed Services terms, and add a new Section 34 titled Implementation and Professional Services Terms

Avaya's requests for modification, consideration, or exception are substantially similar to those that contained in the following publicly available contract:

Texas Department of Information Resources (DIR) # DIR-SDD-1499 (Eff 11/30/2010)
http://www2.dir.state.tx.us/DIR_Contracts/DIR-SDD-1499-appendix-d.pdf

7.2.6 Intellectual property. The Lead State will consider license terms and conditions that as a minimum convey to Participating Entities a nonexclusive, irrevocable, perpetual, paid-up, royalty free license to use software or other intellectual property delivered with or inherent in the commodity or service, and to transfer the license rights to third parties for government purposes. Provide the terms of the license, including any terms that cover third party intellectual property used in the Offeror's solution. Offerors should be aware that Participating Entities using federal funds may be required to negotiate additional or different terms to satisfy minimum rights requirements of their federal grants.

Avaya Response:

Understood. Please refer to the WSCA-NASPO Master Agreement Terms and Conditions Section 17, for Avaya's requested exceptions regarding: i) Avaya's software license, ii) Intellectual Property rights.

In addition, see WSCA-NASPO Master Agreement Terms and Conditions, Section 12 for Avaya's requested exceptions for intellectual property indemnification.

In addition, regarding State of Utah Standard Information Technology Terms and Conditions, Avaya respectfully requests that Avaya's proposed response to the WSCA-NASPO Master Agreement Terms and Conditions, Section 17.2 (Intellectual Property Rights) supersedes for the following sections of the State of Utah Standard Information Technology Terms and Conditions: i) Section 26 (Copyright); ii) Section 27 (Ownership, Protection and Use of Records); iii) Section 28 (Ownership, Protection, and use of Confidential Federal State, or Local Government Internal Business Processes and Procedures); iv)

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Section 29 (Ownership, Protection, and return of Documents and Data Upon Contract Termination or Completion)

Avaya's requests for modification, consideration, or exception are substantially similar to those that contained in the following publicly available contract:

Texas Department of Information Resources (DIR) # DIR-SDD-1499 (Eff 11/30/2010)
http://www2.dir.state.tx.us/DIR_Contracts/DIR-SDD-1499-appendix-d.pdf

7.2.7 Any limitation of liability provision – including any exclusion of damages clause – proposed by an Offeror to be the default limitation of liability provision under the Master Agreement must preserve a reasonable amount of direct damages for breach of contract, additionally permit the Participating Entity to recoup amounts paid for supplies or services not finally accepted (as in the case of advance or progress payments, if used), and preserve the right of the Participating Entity to be held harmless from costs of litigation as well as ultimate liability within limits agreed by the parties.

Moreover, any limitation of liability clause proposed by an Offeror should be reciprocal, cover lost profits, and exclude claims or liability arising out of intellectual property infringement, bodily injury (including death), damage to tangible property, and data breach. Include the text of any such language if proposed. Further, provide contact information for a public entity, or private entity if no public entity exists, where the limitation of liability clause (or another clause substantially similar) operated to limit liability. If no such example exists, provide contact information for a state, or if no state exists, a higher education institution, or if none exists, a city or county represented by counsel in the negotiations who has agreed to the proposed terms and conditions.

Avaya Response:

Understood. Please reference the WSCA-NASPO Master Agreement Terms and Conditions Section 15, for Avaya's requested exceptions regarding limitation of liability.

In addition, reference the State of Utah Standard Information Technology Terms and Conditions for Avaya's request for exception to Section 11 (Indemnity Clause) which we propose to be superseded by the General Indemnity clause of Avaya's proposed Section 15.2 in the WSCA-NASPO Master Agreement Terms and Conditions.

Avaya's requests for modification, consideration, or exception are substantially similar to those that contained in the following publicly available contract:

Texas Department of Information Resources (DIR) # DIR-SDD-1499 (Eff 11/30/2010)
http://www2.dir.state.tx.us/DIR_Contracts/DIR-SDD-1499-appendix-d.pdf

7.2.8 The enumerated examples in subsection 7.2 are not intended to limit the ability of Offerors to propose additional, reasonable exceptions. For any other exception, where the exception is based on claims of standard or normal commercial practice, provide contact information for a state, or if no state exists, a higher education institution, or if none exists, a city or county represented by counsel in the negotiations who has agreed to the proposed terms and conditions.

Avaya Response:

Avaya has submitted additional, reasonable modifications, requests for consideration or exceptions to the following clauses, within the WSCA-NASPO Master Agreement Terms and Conditions:

Section 3.1 – Assignment/Subcontracting

Section 4 – Cancellation

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Section 5 – Confidentiality, Non-Disclosure and Injunctive Relief

Section 7 – Defaults and Remedies

Section 8 – Delivery

Section 16 – Laws and Regulation

Section 19 – Order Numbers

Section 26 – Standard of Performance and Acceptance

Section 27 – System Failure or Damage

Section 28 – Title of Product

Section 29 – Waiver of Breach

Section 31 – Assignment of Antitrust Rights

Definitions

Avaya has submitted modifications or exceptions to the following clauses within Attachment A, the State of Utah Standard Information Technology Terms and Conditions:

Section 13 – Termination

Section 17 – Secure Protection and Handling of Data

Section 18 – Notification and Data Breaches

Section 19 – Change Management

Section 23 – Ordering and Invoicing

Section 25 – Payment

Section 30 – Confidentiality

Section 31 – Termination Upon Default

Section 34 – Liability of Insurance

Section 35 – Entire Agreement

Section 36 – Survivorship

Section 39 – Time is of the Essence

Section 43 – Insurance

Section 44 – Standard of Care

Section 45 – State Review Limitations

Avaya's requests for modification, consideration, or exception are substantially similar to those that contained in the following publicly available contract:

Texas Department of Information Resources (DIR) # DIR-SDD-1499 (Eff 11/30/2010)
http://www2.dir.state.tx.us/DIR_Contracts/DIR-SDD-1499-appendix-d.pdf

7.3 WSCA-NASPO eMarket Center

7.3.1 In July 2011, WSCA-NASPO entered into a multi-year agreement with SciQuest, Inc. whereby SciQuest will provide certain electronic catalog hosting and management services to enable eligible WSCA-NASPO entity's customers to access a central online website to view

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

and/or shop the goods and services available from existing WSCA¬NASPO Cooperative Contracts. The central online website is referred to as the WSCA¬NASPO eMarket Center Contractor shall either upload a hosted catalog into the eMarket Center or integrate a punchout site with the eMarket Center.

Supplier's Interface with the eMarket Center

There is no cost charged by SciQuest to the Contractor for loading a hosted catalog or integrating a punchout site.

At a minimum, the Contractor agrees to the following:

1. Implementation Timeline: WSCA-NASPO eMarket Center Site Admin shall provide a written request to the Contractor to begin enablement process. The Contractor shall have fifteen (15) days from receipt of written request to work with WSCA-NASPO and SciQuest to set up an enablement schedule, at which time SciQuest's technical documentation shall be provided to the Contractor. The schedule will include future calls and milestone dates related to test and go live dates. The contractor shall have a total of Ninety (90) days to deliver either a (1) hosted catalog or (2) punch-out catalog, from date of receipt of written request.

2. Definition of Hosted and Punchout: WSCA-NASPO and SciQuest will work with the Contractor, to decide which of the catalog structures (either hosted or punch-out as further described below) shall be provided by the Contractor. Whether hosted or punch-out, the catalog must be strictly limited to the Contractor's awarded contract offering (e.g. products and/or services not authorized through the resulting cooperative contract should not be viewable by WSCA-NASPO Participating Entity users).

    a. Hosted Catalog. By providing a hosted catalog, the Contractor is providing a list of its awarded products/services and pricing in an electronic data file in a format acceptable to SciQuest, such as Tab Delimited Text files. In this scenario, the Contractor must submit updated electronic data annually to the the eMarket Center for WSCA¬NASPO Contract Administrator's approval to maintain the most up-to-date version of its product/service offering under the cooperative contract in the eMarket Center.

    b. Punch-Out Catalog. By providing a punch-out catalog, the Contractor is providing its own online catalog, which must be capable of being integrated with the eMarket Center as a. Standard punch-in via Commerce eXtensible Markup Language (cXML). In this scenario, the Contractor shall validate that its online catalog is up-to-date by providing a written update quarterly to the Contract Administrator stating they have audited the offered products/services and pricing listed on its online catalog. The site must also return detailed UNSPSC codes (as outlined in line 3) for each line item. Contractor also agrees to provide e-Quote functionality to facilitate volume discounts.

3. Revising Pricing and Product Offerings: Any revisions (whether an increase or decrease) to pricing or product/service offerings (new products, altered SKUs, etc.) must be pre-approved by the WSCA-NASPO Contract Administrator and shall be subject to any other applicable restrictions with respect to the frequency or amount of such revisions. However, no cooperative contract enabled in the eMarket Center may include price changes on a more frequent basis than once per quarter. The following conditions apply with respect to hosted catalogs:

    a. Updated pricing files are required by the 1st of the month and shall go into effect in the eMarket Center on the 1st day of the following month (i.e. file received on 1/01/14 would be effective in the eMarket Center on 2/01/14). Files

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

received after the 1st of the month may be delayed up to a month (i.e. file received on 11/06/14 would be effect in the eMarket Center on 1/01/15).

b. Contract Administrator-approved price changes are not effective until implemented within the eMarket Center. Errors in the Contractor's submitted pricing files will delay the implementation of the price changes in eMarket Center.

4. Supplier Network Requirements: Contractor shall join the SciQuest Supplier Network (SQSN) and shall use the SciQuest's Supplier Portal to import the Contractor's catalog and pricing, into the SciQuest system, and view reports on catalog spend and product/pricing freshness. The Contractor can receive orders through electronic delivery (cXML) or through low-tech options such as fax. More information about the SQSN can be found at: www.sciquest.com or call the SciQuest Supplier Network Services team at 800-233-1121.

5. Minimum Requirements: Whether the Contractor is providing a hosted catalog or a punch-out catalog, the Contractor agrees to meet the following requirements:

a. Catalog must contain the most current pricing, including all applicable administrative fees and/or discounts, as well as the most up-to-date product/service offering the Contractor is authorized to provide in accordance with the cooperative contract; and

b. The accuracy of the catalog must be maintained by Contractor throughout the duration of the cooperative contract between the Contractor and the Contract Administrator; and

c. The Catalog must include a Lead State contract identification number; and

d. The Catalog must include detailed product line item descriptions; and

e. The Catalog must include pictures when possible; and

f. The Catalog must include any additional WSCA-NASPO and Participating Addendum requirements.*

6. Order Acceptance Requirements: Contractor must be able to accept Purchase Orders via fax or cXML.

a. The Contractor shall provide positive confirmation via phone or email within 24 hours of the Contractor's receipt of the Purchase Order. If the Purchasing Order is received after 3pm EST on the day before a weekend or holiday, the Contractor must provide positive confirmation via phone or email on the next business day.

7. UNSPSC Requirements: Contractor shall support use of the United Nations Standard Product and Services Code (UNSPSC). UNSPSC versions that must be adhered to are driven by SciQuest for the suppliers and are upgraded every year. WSCA-NASPO reserves the right to migrate to future versions of the UNSPSC and the Contractor shall be required to support the migration effort. All line items, goods or services provided under the resulting statewide contract must be associated to a UNSPSC code. All line items must be identified at the most detailed UNSPSC level indicated by segment, family, class and commodity. More information about the UNSPSC is available at: http://www.unspsc.com and http://www.unspsc.com/FAQs.asp#howdoesunspscwork.

8. Applicability: Contractor agrees that WSCA-NASPO controls which contracts appear in the eMarket Center and that WSCA-NASPO may elect at any time to remove any supplier's offering from the eMarket Center.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

9. The WSCA-NASPO Contract Administrator reserves the right to approve the pricing on the eMarket Center. This catalog review right is solely for the benefit of the WSCA-NASPO Contract Administrator and Participating Entities, and the review and approval shall not waive the requirement that products and services be offered at prices (and approved fees) required by the Master Agreement.

* Although suppliers in the SQSN normally submit one (1) catalog, it is possible to have multiple contracts applicable to different WSCA-NASPO Participating Entities. For example, a supplier may have different pricing for state government agencies and Board of Regents institutions. Suppliers have the ability and responsibility to submit separate contract pricing for the same catalog if applicable. The system will deliver the appropriate contract pricing to the user viewing the catalog.

Several WSCA-NASPO Participating Entities currently maintain separate SciQuest eMarketplaces, these Participating Entities do enable certain WSCA-NASPO Cooperative Contracts. In the event one of these entities elects to use this WSCA-NASPO Cooperative Contract (available through the eMarket Center) but publish to their own eMarketplace, the Contractor agrees to work in good faith with the entity and WSCA-NASPO to implement the catalog. WSCA-NASPO does not anticipate that this will require substantial additional efforts by the Contractor; however, the supplier agrees to take commercially reasonable efforts to enable such separate SciQuest catalogs.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

WSCA-NASPO Master Agreement Terms and Conditions

1. AGREEMENT ORDER OF PRECEDENCE: The Master Agreement shall consist of the following documents:

1. A Participating Entity's Participating Addendum ("PA");
2. WSCA-NASPO Master Agreement Terms and Conditions;
3. The Statement of Work;
4. The Solicitation; and
5. Contractor's response to the Solicitation.

These documents shall be read to be consistent and complementary. Any conflict among these documents shall be resolved by giving priority to these documents in the order listed above. Contractor terms and conditions that apply to this Master Agreement are only those that are expressly accepted by the Lead State and must be in writing and attached to this Master Agreement as an Exhibit or Attachment. No other terms and conditions shall apply, including terms and conditions listed in the Contractor's response to the Solicitation, or terms listed or referenced on the Contractor's website, in the Contractor quotation/sales order or in similar documents subsequently provided by the Contractor.

Avaya Response:

Understood

2. AMENDMENTS The terms of this Master Agreement shall not be waived, altered, modified, supplemented or amended in any manner whatsoever without prior written approval of the WSCA-NASPO Contract Administrator.

Avaya Response:

Understood

3. ASSIGNMENT/SUBCONTRACT Contractor shall not assign, sell, transfer, subcontract or sublet rights, or delegate responsibilities under this contract, in whole or in part, without the prior written approval of the WSCA-NASPO Contract Administrator.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully submits the following, with the request that it replace the above Section3 regarding Assignment /

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Subcontracting. Upon award of Bid Avaya will identify subcontractors / fulfillment partners in the applicable **Participating Entity-Addendum** with each State, as each State is added to the WSCA-NASPO agreement.

3.1. Neither party shall assign, sell, or transfer its rights and responsibilities under this Agreement (other than the right to receive any amount due, which shall be freely assignable upon written notice to customer), in whole or in part, without the prior written approval of the other party, which approval will not be unreasonably withheld. Notwithstanding the foregoing, Contractor shall have the right to assign all or part of this Agreement as part of a merger, corporate reorganization, or sale of assets or to a majority-owned or majority-controlled subsidiary or affiliate and to subcontract Services to third parties provided that Contractor remains responsible for the performance of such Services by subcontractors done in the normal course of their business obligations and duties to Contractor. However, in all cases notwithstanding subcontracting, the customer will deal only with invoices and payment through either Contractor or the Fulfillment Partners listed on the individual *Participating Addendum.* Any allowed assignee or merged entity shall be subject to all the terms of this Agreement.

3.2. Contractor may, with prior written consent from Participating States, which consent shall not be unreasonably withheld, enter into subcontracts with third parties as "Fulfillment Partners". Fulfillment Partners are Subcontractors who may provide Products and Services under this Agreement at the Price Discounts established in this Agreement and bill Purchasers directly for such Products and Services.

Fulfillment Partners, where directed by Contractor, are required to report to the WSCA-NASPO Contract Manager, account for and submit the WSCA-NASPO Contract Administration Fee, along with Contract Activity Reports.

3.3. Contractor, as well as Fulfillment Partners participate in the Federal Communication Commission's E-rate discount program established under the authority of the Federal Telecommunications Commission Act of 1996 and may accept and process E-Rate transactions under their own E-rate registration numbers.

3.4. Contractor intends to name Value Added Resellers (VARs) or Subcontractors/Agents in the WSCA-NASPO contract, based on a state-by-state coverage model. Contractor will identify and negotiate final VARs or Subcontractors/Agents (identified as Fulfillment Partners in Contractors response to the RFP) with WSCA-NASPO during contract negotiations.

> **4. CANCELLATION** Unless otherwise stated in the special terms and conditions, any Master Agreement may be canceled by either party upon 60 days notice, in writing, prior to the effective date of the cancellation. Further, any Participating State may cancel its participation upon 30 days written notice, unless otherwise limited or stated in the special terms and conditions of this solicitation. Cancellation may be in whole or in part. Any cancellation under this provision shall not effect the rights and obligations attending orders outstanding at the time of cancellation, including any right of and Purchasing Entity to indemnification by the Contractor, rights of payment for goods/services delivered and accepted, and rights attending any warranty or default in performance in association with any order. Cancellation of the Master Agreement due to Contractor default may be immediate.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully submits the following with the request that it replace the above Section 4 (Cancellation).

4. CANCELLATION:

4.1. Termination for Convenience

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

4.1.1. WSCA-NASPO Master Agreement: Either party (Participating Entity or Contractor) may terminate this WSCA-NASPO Master Agreement for convenience at any time by providing the other party with at least one hundred twenty (120) calendar days' written notice prior to the effective date of the cancellation. The termination date specified in the notice shall be on or after the first anniversary of the Effective Date of the initial contract term. The WSCA-NASPO Master Agreement shall automatically terminate at the end of the period for which notice is given.

Any cancellation under this provision shall not affect the rights and obligations of either party attending orders outstanding at the time of cancellation, e.g., any right of Purchasing Entity to indemnification by the Contractor, rights of Contractor payment for goods/services delivered and accepted, and rights attending any warranty or default in performance in association with any prior order.

4.1.2. Participating Addendum: Either party to a Participating Addendum may terminate a Participating Addendum at any time by providing the other with at least forty-five (45) calendar days' written notice prior to the effective date of cancellation. The Participating Addendum shall automatically terminate at the end of the period for which notice is given. Any cancellation under this provision shall not affect the rights and obligations of either party attending orders outstanding at the time of cancellation, e.g., any right of a Participating Entity to indemnification by the Contractor, rights of payment for goods/services delivered and accepted, and rights attending any warranty or default in performance in association with any prior order.

4.2. Termination for Non-Appropriation of Funds

Purchaser under a Participating Addendum shall have no liability to Contractor beyond funds that are appropriated and made available to the Purchaser by the applicable legislative body. If sufficient funds are not appropriated by legislative action to a Purchaser as to any future period, Purchaser may terminate its Order(s) prospectively as to such future performance impacted by and to the extent of non-appropriation, or otherwise work with Contractor to arrive at a mutually acceptable resolution of the situation. Purchaser shall notify Contractor in writing of such non appropriation within thirty (30) calendar days of final legislative action.

No penalty shall accrue to Participating Entities or its Purchasers in the event this section shall be exercised. This section shall not be construed to permit Participating Entities to terminate this agreement, or a Purchaser to terminate its Order(s) as to the period for which appropriations were made and available or as to any future period in order to acquire similar Products or Services from a third party.

Any cancellation under this provision shall not affect the rights and obligations of either party attending orders outstanding up to the time of non-appropriation of funds, e.g., any right of and Participating Entity to indemnification by the Contractor, rights of payment for goods/services delivered and accepted, and rights attending any warranty or default in performance in association with any prior order.

4.3. Rights On Termination or Expiration

4.3.1. Upon termination or expiration of this agreement or a Participating Addendum, (a) Contractor reserves the right to cease all further delivery of Product or Services, (b) all outstanding invoices become due and payable within thirty (30) days of termination, and (c) all rights and licenses of Participating Entity under this WSCA-NASPO Master Agreement shall terminate, subject to the terms of this Section. If Contractor agrees to complete delivery of any further Products or Services due against any existing accepted Purchase Orders then Participating Entity shall pay for such Products or Services in advance within thirty (30) days.

4.3.2. Except for a termination of this WSCA-NASPO Master Agreement resulting from Participating Entity's breach of Section 17 (Intellectual Property and Software Licensing), Section 5 (Confidential Information), or Section 16 (Export, Re-Export), upon termination or expiration of this WSCA-NASPO Master Agreement, Participating Entity may continue to use, in accordance with the terms and conditions of this WSCA-NASPO Master Agreement and/or the Participating Addendum, Products provided to it by Contractor prior to the date of termination or expiration provided payment has been made in full for such Products.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

4.3.3. Upon termination or expiration of this WSCA-NASPO Master Agreement, Participating Entity shall immediately return to Contractor all Confidential Information (including all copies thereof) then in Participating Entity's possession, custody or control (except· that Participating Entity may retain one archival copy for records retention purposes only as required by law); provided that, except for a termination resulting from Participating Entity's breach of Section 17 (Intellectual Property and Software Licensing), Section 5 (Confidential Information), or Section 16 (Export, Re-Export), Participating Entity may retain a sufficient amount of such Confidential Information and material to operate its installed base of Products.

4.3.4. In the event of any termination pursuant to this section, and unless otherwise required by law or court of competent jurisdiction, Purchaser shall remain obligated to comply in perpetuity with the provisions of Section 17 (Software License), Section 16 (Export Restrictions), or Section 5 (Confidential Information).

4.4. Validity of Orders

The parties agree that if Purchaser places a firm Order prior to the expiration or termination of this WSCA-NASPO Master Agreement (or a Participating Addendum), which by its terms would extend beyond the expiration or termination of this WSCA-NASPO Master Agreement (or a Participating Addendum), and Contractor has accepted such Purchase Order(s) prior to the expiration or termination of this WSCA-NASPO Master Agreement or a Participating Addendum, then any such Purchase Order(s) (i) shall remain in effect and be governed by the terms and conditions of this WSCA-NASPO Master Agreement, and (ii) shall survive expiration of this WSCA-NASPO Master Agreement in accordance with the terms herein but will not be considered an extension of the term of this WSCA-NASPO Master Agreement nor a renewal thereof. No Orders placed after expiration or termination of this WSCA-NASPO Master Agreement shall be valid.

5. CONFIDENTIALITY, NON-DISCLOSURE AND INJUNCTIVE RELIEF

5.1 Confidentiality. Contractor acknowledges that it and its employees or agents may, in the course of providing the Product under this Master Agreement, be exposed to or acquire information that is confidential to Participating Entity or Participating Entity's clients. Any and all information of any form that is marked as confidential or would by its nature be deemed confidential obtained by Contractor or its employees or agents in the performance of this Master Agreement, including, but not necessarily limited to (a) any Participating Entity records, (b) personnel records, and (c) information concerning individuals, is confidential information of Participating Entity ("Confidential Information"). Any reports or other documents or items (including software) that result from the use of the Confidential Information by Contractor shall be treated in the same manner as the Confidential Information. Confidential Information does not include information that (a) is or becomes (other than by disclosure by Contractor) publicly known; (b) is furnished by Participating Entity to others without restrictions similar to those imposed by this Master Agreement; (c) is rightfully in Contractor's possession without the obligation of nondisclosure prior to the time of its disclosure under this Master Agreement; (d) is obtained from a source other than Participating Entity without the obligation of confidentiality, (e) is disclosed with the written consent of Participating Entity or; (f) is independently developed by employees, agents or subcontractors of Contractor who can be shown to have had no access to the Confidential Information.

5.2 Non-Disclosure. Contractor shall hold Confidential Information in confidence, using at least the industry standard of confidentiality, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purposes whatsoever other than the performance of this Master Agreement to Participating Entity hereunder, and to advise each of its employees and agents of their obligations to keep Confidential Information confidential. Contractor shall use commercially reasonable efforts to assist Participating Entity in identifying and preventing any

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

unauthorized use or disclosure of any Confidential Information. Without limiting the generality of the foregoing, Contractor shall advise Participating Entity immediately if Contractor learns or has reason to believe that any person who has had access to Confidential Information has violated or intends to violate the terms of this Master Agreement and Contractor shall at its expense cooperate with Participating Entity in seeking injunctive or other equitable relief in the name of Participating Entity or Contractor against any such person. Except as directed by Participating Entity, Contractor will not at any time during or after the term of this Master Agreement disclose, directly or indirectly, any Confidential Information to any person, except in accordance with this Master Agreement, and that upon termination of this Master Agreement or at Participating Entity's request, Contractor shall turn over to Participating Entity all documents, papers, and other matter in Contractor's possession that embody Confidential Information. Notwithstanding the foregoing, Contractor may keep one copy of such Confidential Information necessary for quality assurance, audits and evidence of the performance of this Master Agreement.

5.3 Injunctive Relief. Contractor acknowledges that breach of this Section, including disclosure of any Confidential Information, will cause irreparable injury to Participating Entity that is inadequately compensable in damages. Accordingly, Participating Entity may seek and obtain injunctive relief against the breach or threatened breach of the foregoing undertakings, in addition to any other legal remedies that may be available. Contractor acknowledges and agrees that the covenants contained herein are necessary for the protection of the legitimate business interests of Participating Entity and are reasonable in scope and content.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully submits the request that Section 5 of this WSCA-NASPO Master Agreement be made mutual and, with respect to 5.2, request that this be modified to be limited to what is within Avaya's care and control.

6. DEBARMENT The contractor certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction (contract) by any governmental department or agency. If the contractor cannot certify this statement, attach a written explanation for review by WSCA-NASPO.

Avaya Response:

Understood.

7. DEFAULTS & REMEDIES

a. The occurrence of any of the following events shall be an event of default under this Master Agreement:

i. Nonperformance of contractual requirements; or

ii. A material breach of any term or condition of this Master Agreement; or

iii. Any representation or warranty by Contractor in response to the solicitation or in this Master Agreement proves to be untrue or materially misleading; or

iv. Institution of proceedings under any bankruptcy, insolvency, reorganization or similar law, by or against Contractor, or the appointment of a receiver or similar officer for Contractor or any of its property, which is not vacated or fully stayed within thirty (30) calendar days after the institution or occurrence thereof; or

v. Any default specified in another section of this Master Agreement.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

b. Upon the occurrence of an event of default, Lead State shall issue a written notice of default, identifying the nature of the default, and providing a period of 15 calendar days in which Contractor shall have an opportunity to cure the default. The Lead State shall not be required to provide advance written notice or a cure period and may immediately terminate this Master Agreement in whole or in part if the Lead State, in its sole discretion, determines that it is reasonably necessary to preserve public safety or prevent immediate public crisis. Time allowed for cure shall not diminish or eliminate Contractor's liability for damages, including liquidated damages to the extent provided for under this Master Agreement.

c. If Contractor is afforded an opportunity to cure and fails to cure the default within the period specified in the written notice of default, Contractor shall be in breach of its obligations under this Master Agreement and Lead State shall have the right to exercise any or all of the following remedies:

i. Exercise any remedy provided by law; and

ii. Terminate this Master Agreement and any related Contracts or portions thereof; and

iii. Impose liquidated damages as provided in this Master Agreement; and

iv. Suspend Contractor from receiving future bid solicitations; and

v. Suspend Contractor's performance; and

vi. Withhold payment until the default is remedied.

d. In the event of a default under a Participating Addendum, a Participating Entity shall provide a written notice of default as described in this section and have all of the rights and remedies under this paragraph regarding its participation in the Master Agreement, in addition to those set forth in its Participating Addendum.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully submits the request that Section 7 of this WSCA-NASPO Master Agreement be replaced with the following.

7. Defaults & Remedies:

7.1. WSCA-NASPO Master Agreement: The State or Avaya may terminate this WSCA-NASPO Master Agreement if either party breaches the terms of the WSCA-NASPO Master Agreement as follows: (a) immediately upon providing written notice to the breaching party if the breach is not capable of being cured, and (b) sixty (60) calendar days after providing written notice to the breaching party if the breaching party otherwise fails to cure a material breach within such sixty (60) calendar day period or commence cure within such sixty (60) calendar day period or diligently pursue completion of such cure.

Notwithstanding the foregoing, the WSCA-NASPO Master Agreement may be terminated immediately by Contractor for cause in the event of Purchaser's breach of the following Sections in the WSCA-NASPO Master Agreement Terms and Conditions; Section 17 (Software License), Section 16 (Export Restrictions), or Section 5 (Confidential Information).

7.2.Participating Addendum: If either party to a Participating Addendum (including the State of Utah when acting in its sovereign capacity under this WSCA-NASPO Master Agreement) materially breaches any of the provisions of a Participating Addendum, the non-breaching party may terminate the Participating Addendum as follows: (a) immediately upon providing written notice to the breaching party if the breach is not capable of being cured, and (b) thirty (30) calendar days after providing written notice to the breaching party if the breaching party fails to cure such breach within such thirty (30) calendar day period. Notwithstanding the foregoing, a Participating Addendum may be terminated immediately by Contractor

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

for cause in the event of Purchaser's breach of the following Sections in the WSCA-NASPO Master Agreement Terms and Conditions; Section 17 (Software License), Section 16 (Export Restrictions), or Section 5 (Confidential Information).

The cure periods stated in the above paragraphs shall not apply to any failure(s) to perform that result from the willful or negligent acts or omissions of the aggrieved party.

8. DELIVERY Unless otherwise indicated in the Master Agreement, the prices are the delivered price to any Participating State agency or political subdivision. All deliveries shall be F.O.B. destination with all transportation and handling charges paid by the contractor. Responsibility and liability for loss or damage shall remain the Contractor until final inspection and acceptance when responsibility shall pass to the Buyer except as to latent defects, fraud and Contractor's warranty obligations. The minimum shipment amount will be found in the special terms and conditions. Any order for less than the specified amount is to be shipped with the freight prepaid and added as a separate item on the invoice. Any portion of an order to be shipped without transportation charges that is back ordered shall be shipped without charge.

Avaya Response:

Understood. Reference RFP Section 3.1.4 and 7.2.8 for Avaya's request for exception, and Avaya respectfully submits the request that Section 8 (Orders and Delivery) of this WSCA-NASPO Master Agreement be replaced with the following.

8. ORDERS and DELIVERY. Notwithstanding anything contained in the Agreement to the contrary:

8.1. Contractor reserves the right to require that purchases be made through Fulfillment Partners. Where so required by Contractor, Purchasers shall not order Products or Services directly from Contractor and shall order same from Fulfillment Partner. Purchaser shall purchase Products by issuing a written or electronic Purchase Order, signed or (in the case of electronic transmission) sent by its authorized representative, indicating specific Products, quantity, unit price, total purchase price, shipping instructions, requested delivery dates, bill-to and ship-to addresses, tax exempt certifications, if applicable, and any other special instructions.

8.2. Any contingencies on Purchaser's Purchase Orders are not binding upon Contractor. The terms and conditions of this Agreement prevail, regardless of any additional or conflicting terms on the Purchase Order, or other correspondence from Purchaser to Contractor and any additional or conflicting terms are deemed rejected by Contractor unless Contractor has expressly agreed to such terms in writing. Mere acceptance or processing of a Purchase Order, Order or Order Document containing such terms shall not constitute such express consent.

8.3. All Purchase Orders are subject to Contractor's reasonable acceptance (including performing any related credit checks). Contractor shall use commercially reasonable efforts to accept or reject orders in writing within ten (10) days from receipt, or within three (3) Business Days, if orders are placed electronically.

8.4. Purchaser may defer Product shipment up to thirty (30) days from the originally scheduled shipping date, provided written notice is received by Contractor at least ten (10) days before the originally scheduled shipping date. Cancelled orders, rescheduled deliveries or Product configuration changes made by Purchaser less than ten (10) days before the original shipping date are subject to Contractor's acceptance and a charge of fifteen percent (15 %) of the total invoice amount relating to the affected Product(s). Contractor reserves the right to reschedule delivery due to configuration changes made within ten (10) days of scheduled shipment. No

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

cancellation shall be accepted by Contractor where Products are purchased with implementation Services, including but not limited to design, customization or installation Services, except as may be set forth in the agreement or Statement of Work under which the Services are to be rendered. Notwithstanding anything to the contrary, if Contractor is delayed in shipping the Product for thirty (30) days or more from the original shipping date, the Participating Entity may cancel the order without charge.

8.5. Services. Purchaser may place Purchase Orders for the various Services offered by Contractor. The provision of any such Services, if accepted by Contractor, shall be subject to the terms and conditions set forth in this Agreement, as well as the then-current terms of service offerings set forth on Contractor's website. Contractor reserves the right to subcontract services to a third party maintenance organization to provision Services for Purchaser.

8.6. After receipt and acceptance by Contractor of Participating Entity's Purchase Order(s), Contractor will use commercially reasonable efforts to ship all direct purchase orders designated for shipment to U.S. locations within thirty (30) days (or Participating Entity requested date, whichever is longer) for all Products. Please note that the following circumstances may affect lead times: (i) new products purchased within the first three (3) months of release of the product which are subject to Contractor's then current published lead-times, (ii) third-party stand-alone products which are not a component of equipment resold by Contractor, (iii) end-of-life products where the termination of the product has been announced by Contractor, (iv) products which have been line-stopped due to software discrepancies, reconfiguration, industry-wide product shortages, or alleged infringement claims, or (vi) situations where government rated orders create delays in lead-times.

8.7. Contractor will communicate scheduled shipping dates within three (3) business days after receipt of a Purchase Order provided that in the event such notification is not received in this time period, Participating Entity shall notify Contractor of the non-receipt, and Contractor's sole obligation with respect to such non-receipt shall be to promptly provide the information to the Participating Entity after such notification.

8.8. If Contractor has reason to believe that the actual shipment date will occur later than the original shipment date acknowledged by Contractor for reasons caused by Contractor, Contractor shall use commercially reasonable efforts to promptly provide additional information to Participating Entity including by electronic posting of the expected period of delay and, upon request, of the steps available, if any, to minimize the delay. If the extended delivery date is anticipated to be more than thirty (30) calendar days beyond the originally scheduled delivery date, the parties will work in good faith to resolve any ordering issues pursuant to the order escalation process.

8.9. Shipping terms are FOB destination, shipping and handling prepaid by Contractor. The method of shipment shall be consistent with the nature of the products and hazards of transportation. Acceptance by Purchaser shall be deemed to have occurred upon delivery of the applicable Products to the applicable Purchaser. Title and risk of loss shall pass to Purchaser upon delivery.

8.10. If Purchaser requests delivery of Products to Purchaser's forwarding agent or other representative, Purchaser assumes responsibility for compliance with applicable export laws and regulations.

8.11. Contractor is not liable for damage or penalty for delay in delivery or for failure to give notice of delay. Contractor shall not have any liability in connection with Product shipment other than as set forth in this Section 8.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

8.12. All sales are final. Except as provided in Contractor's Warranty (see Section 30), Contractor only permits the return of un-opened products due to Contractor's shipping or order processing error, or damage in transit. No other returns are authorized under this Agreement. Warranty returns will not be subject to any restocking charges.

9. FORCE MAJEURE Neither party to this Master Agreement shall be held responsible for delay or default caused by fire, riot, acts of God and/or war which is beyond that party's reasonable control. WSCA-NASPO may terminate this Master Agreement after determining such delay or default will reasonably prevent successful performance of the Master Agreement.

Avaya Response:

Understood.

10. GOVERNING LAW This procurement and the resulting agreement shall be governed by and construed in accordance with the laws of the state sponsoring and administering the procurement. The construction and effect of any Participating Addendum or order against the Master Agreement(s) shall be governed by and construed in accordance with the laws of the Participating Entity's State. Venue for any claim, dispute or action concerning an order placed against the Master Agreement(s) or the effect of an Participating Addendum shall be in the Purchasing Entity's State.

Avaya Response:

Understood.

11. INDEMNIFICATION The Contractor shall defend, indemnify and hold harmless WSCA-NASPO, the Lead State and Participating Entities along with their officers, agencies, and employees as well as any person or entity for which they may be liable from and against claims, damages or causes of action including reasonable attorneys' fees and related costs for any death, injury, or damage to property arising from act(s), error(s), or omission(s) of the Contractor, its employees or subcontractors or volunteers, at any tier, relating to the performance under the Master Agreement. This section is not subject to any limitations of liability in this Master Agreement or in any other document executed in conjunction with this Master Agreement

Avaya Response:

Understood. As referenced in RFP Section 7.2.6 Avaya requests the above, Section 11 (Indemnification) be replaced by our suggested re-write of Section 15 of this WSCA-NASPO Master Agreement.

12. INDEMNIFICATION – INTELLECTUAL PROPERTY The Contractor shall defend, indemnify and hold harmless WSCA-NASPO, the Lead State and Participating Entities along with their officers, agencies, and employees as well as any person or entity for which they may be liable ("Indemnified Party") from and against claims, damages or causes of action including reasonable attorneys' fees and related costs arising out of the claim that the Product or its use, infringes Intellectual Property rights ("Intellectual Property Claim"). The Contractor's obligations under this section shall not extend to any combination of the Product with any other product, system or method, unless:

(1) the Product, system or method is:

(a) provided by the Contractor or the Contractor's subsidiaries or affiliates;

(b) specified by the Contractor to work with the Product; or

(c) reasonably required, in order to use the Product in its intended manner, and the infringement could not have been avoided by substituting another reasonably available product, system or method capable of performing the same function; or

(2) it would be reasonably expected to use the Product in combination with such product, system or method.

The Indemnified Party shall notify the Contractor within a reasonable time after receiving notice of an Intellectual Property Claim. Even if the Indemnified Party fails to provide reasonable notice, the Contractor shall not be relieved from its obligations unless the Contractor can demonstrate that it was prejudiced in defending the Intellectual Property Claim resulting in increased expenses or loss to the Contractor. If the Contractor promptly and reasonably investigates and defends any Intellectual Property Claim, it shall have control over the defense and settlement of it. However, the Indemnified Party must consent in writing for any money damages or obligations for which it may be responsible. The Indemnified Party shall furnish, at the Contractor's reasonable request and expense, information and assistance necessary for such defense. If the Contractor fails to vigorously pursue the defense or settlement of the Intellectual Property Claim, the Indemnified Party may assume the defense or settlement of it and the Contractor shall be liable for all costs and expenses, including reasonable attorneys' fees and related costs, incurred by the Indemnified Party in the pursuit of the Intellectual Property Claim. This section is not subject to any limitations of liability in this Master Agreement or in any other document executed in conjunction with this Master Agreement.

Avaya Response:

Understood. As referenced in RFP Section 7.2.6 Avaya requests the following to replace the above Section 12 of this WSCA-NASPO Master Agreement, regarding Indemnification-Intellectual Property.

12. INFRINGEMENT defense and INDEMNIFICATION

12.1 Defense and Indemnity. Contractor will defend WSCA-NASPO, the Lead State and Participating Entities, along with their officers, agencies, and employees, ("Indemnified Parties") at Contractor's expense, against any Claim, as defined below, and will indemnify Indemnified Parties as provided for in this Section for any judgments, settlements and court awarded attorney's fees resulting from a Claim. Contractor's obligations under this Section are conditioned on the following: (i) Indemnified Parties promptly notifies Contractor of the Claim in writing upon Indemnified Party being made aware of the Claim; (ii) Indemnified Party gives Avaya sole authority and control of the defense and (if applicable) settlement of the Claim, provided that Indemnified Party's legal counsel may participate in such defense and settlement, at Indemnified Party's expense, and (iii) Indemnified Party provides all information and assistance reasonably requested by Contractor to handle the defense or settlement of the Claim. For purposes of this Section, "Claim" means any cause of action in a third party action, suit or proceeding against Indemnified Party alleging that a Product as of its delivery date under this Agreement infringes a valid U.S. patent, copyright or trademark.

12.2 Remedial Measures. If a Product becomes, or Contractor reasonably believes use of a Product may become, the subject of a Claim, Contractor may, at its own expense and option: (i) procure for Indemnified Party the right to continue use of the Product; (ii) replace or modify the Product; or to the extent that neither (i) nor (ii) are deemed commercially practicable, (iii) refund to Indemnified Party a pro-rated portion of the applicable fees for the Product based on a linear depreciation monthly over a five (5) year useful life, in which case Indemnified Party will cease all use of the Product and return it to Contractor.

12.3 Exceptions. Contractor will have no defense or indemnity obligation for any Claim based on: (i) a Product that has been modified by someone other than Contractor; (ii) a Product that has been modified by Contractor in accordance with Indemnified Party-provided specifications or instructions; (iii) use or combination of a Product with Third Party Products, open source or freeware technology; (iv) Third Party

Products, open source or freeware technology; (v) a Product that is used or located by Indemnified Parties in a country other than the country in which or for which it was supplied by Contractor; (vi) possession or use of the Product after Contractor has informed Indemnified Parties of modifications or changes in the Product required to avoid such Claim and offered to implement those modifications or changes, if such Claim would have been avoided by implementation of Contractor's suggestions and to the extent Indemnified Party did not provide Contractor with a reasonable opportunity to implement Contractor's suggestions; or (vii) the amount of revenue or profits earned or other value obtained by the use of Products, or the amount of use of the Products. "Third Party Products" means any products made by a party other than Contractor, and may include, without limitation, products ordered by Indemnified Party from third parties. However, components of Contractor-branded Products are not Third Party Products if they are both: (i) embedded in Products (i.e., not recognizable as standalone items); and (ii) not identified as separate items on Contractor's price list, quotes, order specifications forms or Documentation.

12.4 Sole Remedy. THE FOREGOING STATES CONTRACTOR'S ENTIRE LIABILITY, AND INDEMNIFIED PARTY'S SOLE AND EXCLUSIVE REMEDY, WITH RESPECT TO ANY INFRINGEMENT OR MISAPPROPRIATION OF ANY INTELLECTUAL PROPERTY RIGHTS OF ANY OTHER PARTY.

13. INDEPENDENT CONTRACTOR The contractor shall be an independent contractor, and as such shall have no authorization, express or implied to bind WSCA-NASPO or the respective states to any agreements, settlements, liability or understanding whatsoever, and agrees not to perform any acts as agent for WSCA-NASPO or the states, except as expressly set forth herein.

Avaya Response:

Understood.

14. INDIVIDUAL CUSTOMER Except to the extent modified by a Participating Addendum, each Participating Entity shall follow the terms and conditions of the Master Agreement and applicable Participating Addendum and will have the same rights and responsibilities for their purchases as the Lead State has in the Master Agreement, including but not limited to, any indemnity or to recover any costs allowed in the Master Agreement and applicable Participating Addendum for their purchases. Each Participating Entity will be responsible for its own charges, fees, and liabilities. The Contractor will apply the charges and invoice each Participating Entity individually.

Avaya Response:

Understood.

15. INSURANCE Contractor shall, during the term of this Master Agreement, maintain in full force and effect, the insurance described in this section. Contractor shall acquire such insurance from an insurance carrier or carriers licensed to conduct business in the Participating Entity's state and having a rating of A-, Class VII or better, in the most recently published edition of Best's Reports. Failure to buy and maintain the required insurance may result in this Master Agreement's termination or at a Participating Entity's option, result in termination of its Participating Addendum.

Coverage shall be written on an occurrence basis. The minimum acceptable limits shall be as indicated below, with no deductible for each of the following categories: a) Commercial General Liability covering the risks of bodily injury (including death), property damage and personal injury, including coverage for contractual liability, with a limit of not less than $1 million per occurrence/$2 million general aggregate; b) Contractor must comply with any applicable State Workers Compensation or Employers Liability Insurance requirements.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Contractor shall pay premiums on all insurance policies. Such policies shall also reference this Master Agreement and shall have a condition that they not be revoked by the insurer until thirty (30) calendar days after notice of intended revocation thereof shall have been given to Participating Entity by the Contractor.

Prior to commencement of the work, Contractor shall provide to the Participating Entity a written endorsement to the Contractor's general liability insurance policy that (i) names the Participating Entity as an additional insured, (ii) provides that no material alteration, cancellation, non-renewal, or expiration of the coverage contained in such policy shall have effect unless the named Participating Entity has been given at least thirty (30) days prior written notice, and (iii) provides that the Contractor's liability insurance policy shall be primary, with any liability insurance of the Participating Entity as secondary and noncontributory.

Contractor shall furnish to Participating Entity copies of certificates of all required insurance within thirty (30) calendar days of the Participating Addendum's effective date and prior to performing any work. Copies of renewal certificates of all required insurance shall be furnished within thirty (30) days after renewal date. These certificates of insurance must expressly indicate compliance with each and every insurance requirement specified in this section. Failure to provide evidence of coverage may, at State's sole option, result in this Master Agreement's termination.

Coverage and limits shall not limit Contractor's liability and obligations under this Master Agreement.

Avaya Response:

Understood. As referenced in Avaya's response to RFP Section 3.1.3 and 7.2.7, Avaya requests the following to replace the above Section 15 of this WSCA-NASPO Master Agreement, regarding Insurance; Hold Harmless; General Indemnity; Limitation of Liability; Consequential and Other Damages.

15. INSURANCE; HOLD HARMLESS; GENERAL INDEMNITY; LIMITATION OF LIABILITY; CONSEQUENTIAL AND OTHER DAMAGES:

15.1. General Liability Insurance. Contractor shall maintain Commercial General Liability insurance with bodily injury and property damage limits of $1,000,000 per occurrence and $2,000,000 aggregate. Such insurance shall (a) provide for contractual liability coverage, (b) provide for cross liability coverage, and (c) name the other party and its subcontractors, as well as the directors, officers, employees, agents, successors and assigns of all of them, as additional insureds, but only to the extent of liabilities falling within the indemnity obligations of the other party pursuant to the terms of Subsection 12.2. Nothing in this section shall prohibit any applicable party from providing any or all of the insurance coverages required on a self-insured basis.

15.2. General Indemnity. Subject to governmental immunities of the Participating States, each party to this Agreement and to each Participating Addendum, as the case may be, shall defend, indemnify and hold harmless the other, its corporate affiliates and their respective officers, directors, employees, and agents and their respective successors and assigns from and against any and all claims, losses, liabilities, damages, and expenses (including, without limitation, reasonable attorneys' fees), including without limitation those based on contract or tort, arising out of or in connection with a claim, suit or proceeding brought by a third party based upon bodily injury (including death) or damage to tangible personal property (but not including lost or damaged data, or toll fraud) arising from the negligent or intentional acts or omissions of the indemnifying party or its subcontractors, or the officers, directors, employees, agents, successors and assigns of any of them. In the event that the indemnified party's or a third party's negligent or intentional acts or omissions contributed to cause the injury or damage for which a claim of indemnity is being asserted against the indemnifying party hereunder, the damages and expenses (including, without limitation, reasonable attorneys' fees) shall be allocated or reallocated, as the case may be, between the indemnified party, the indemnifying party and any other party bearing

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

responsibility in such proportion as appropriately reflects the relative fault of such parties, or their subcontractors, or the officers, directors, employees, agents, successors and assigns of any of them, and the liability of the indemnifying party shall be proportionately reduced.

The foregoing indemnification obligations are conditioned upon the indemnified party promptly notifying the indemnifying party in writing of the claim, suit or proceeding for which the indemnifying party is obligated under this Subsection, cooperating with, assisting and providing information to, the indemnifying party as reasonably required, and granting the indemnifying party the exclusive right to defend or settle such claim, suit or proceeding; provided that any such settlement or compromise includes a release of the indemnified party from all liability arising out of such claim, suit or proceeding.

15.3. Limitation of Liability. EXCEPT FOR THOSE OBLIGATIONS UNDER SECTIONS 12 (INTELLECTUAL PROPERTY INFRINGEMENT) AND 15.2 (GENERAL INDEMNITY), NOTWITHSTANDING ANYTHING ELSE HEREIN, ALL LIABILITY OF CONTRACTOR AND ITS SUPPLIERS TO ANY PURCHASER FOR CLAIMS ARISING UNDER THIS AGREEMENT, THE APPLICABLE PARTICIPATING ADDENDUM, OR OTHERWISE SHALL BE LIMITED TO THE MONEY PAID TO CONTRACTOR FOR PRODUCTS OR FOR SERVICES WITH RESPECT TO SUCH PURCHASER DURING THE TWELVE (12) MONTH PERIOD PRECEDING THE EVENT OR CIRCUMSTANCES GIVING RISE TO SUCH LIABILITY. THIS LIMITATION OF LIABILITY IS CUMULATIVE AND NOT PER INCIDENT.

15.4. Waiver of Consequential and Other Damages. IN NO EVENT SHALL EITHER PARTY BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, LOST REVENUE, LOST PROFITS, OR LOST OR DAMAGED DATA, WHETHER ARISING IN CONTRACT, TORT (INCLUDING NEGLIGENCE), OR OTHERWISE, EVEN IF HAVING BEEN INFORMED OF THE POSSIBILITY THEREOF.

15.5 HOWEVER THESE LIMITATIONS OF LIABILITY WILL NOT APPLY IN CASES OF WILLFUL MISCONDUCT, PERSONAL INJURY, BREACHES OF EITHER PARTY'S CONFIDENTIAL INFORMATION OR BREACHES OF AVAYA'S LICENSE RESTRICTIONS. THE LIMITATIONS OF AGGREGATE LIABILITY WILL NOT APPLY TO CONTRACTUAL INDEMNIFICATION OBLIGATIONS PROVIDED IN THE AGREEMENT

16. LAWS AND REGULATIONS Any and all supplies, services and equipment offered and furnished shall comply fully with all applicable Federal and State laws and regulations.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully submits the following, with the request that it replace the above Section 16 (Laws and Regulations).

16. Laws and Regulations. The parties will observe all applicable laws and regulations when using the Products and work product of any Services. WSCA-NASPO or Participating Entity, as applicable, is advised that the Products, including any Software, are of U.S. origin and subject to the U.S. Export Administration Regulations ("EAR"). Products also may be subject to applicable local laws and regulations. Diversion contrary to U.S. and/or applicable local country law and/or regulation is prohibited. WSCA-NASPO or Participating Entity, as applicable, agrees not to directly or indirectly export, re-export, import, download, or transmit Products to any country, end user or for any use that is contrary to applicable U.S. and/or local country regulation or statute (including but not limited to those countries embargoed by the U.S. government). WSCA-NASPO or Participating Entity, as applicable, represents that neither the U.S. Bureau of Industry and Security ("BIS") nor any governmental agency has issued sanctions against such party or otherwise suspended, revoked or denied party's export privileges. WSCA-NASPO or Participating Entity, as applicable, agrees not to use or transfer Products for any use relating to nuclear, chemical or biological weapons, or missile technology, unless authorized by the U.S. and applicable local government by regulation or specific written license. Additionally, WSCA-NASPO or

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Participating Entity, as applicable, is advised that Products may contain encryption algorithm or source code that may not be exported to government or military end users without a license issued by the U.S. BIS and any other country's governmental agencies, where applicable..

17. LICENSE OF PRE-EXISTING INTELLECTUAL PROPERTY Contractor grants to the Participating Entity a nonexclusive, perpetual, royalty-free, irrevocable, unlimited license to publish, translate, reproduce, modify, deliver, perform, display, and dispose of the Intellectual Property, and its derivatives, used or delivered under this Master Agreement, but not created under it ("Pre-existing Intellectual Property"). The license shall be subject to any third party rights in the Pre-existing Intellectual Property. Contractor shall obtain, at its own expense, on behalf of the Participating Entity, written consent of the owner for the licensed Pre-existing Intellectual Property.

Avaya Response:

Understood. As referenced in Section 7.2.6 Avaya requests the following to replace the above Section 17, regarding Avaya's Software License (Section 17.1) and Intellectual Property Rights (Section 17.2).

17.1 CONTRACTOR'S SOFTWARE LICENSE TERMS

These Contractor's Software License Terms apply if and to the extent Software is purchased from Contractor under this Agreement.

THIS END USER LICENSE AGREEMENT ("SOFTWARE LICENSE TERMS") GOVERNS THE USE OF CONTRACTOR'S PROPRIETARY SOFTWARE AND THIRD-PARTY PROPRIETARY SOFTWARE. READ THESE SOFTWARE LICENSE TERMS CAREFULLY, IN THEIR ENTIRETY, BEFORE INSTALLING, DOWNLOADING OR USING THE CONTRACTOR SOFTWARE (AS DEFINED IN SECTION A BELOW). BY INSTALLING, DOWNLOADING OR USING THE CONTRACTOR SOFTWARE, OR AUTHORIZING OTHERS TO DO SO, YOU, ON BEHALF OF YOURSELF AND THE ENTITY FOR WHOM YOU ARE DOING SO (HEREINAFTER REFERRED TO INTERCHANGEABLY AS "YOU" AND "END USER"), AGREE TO THESE SOFTWARE LICENSE TERMS AND CONDITIONS AND CREATE A BINDING CONTRACT BETWEEN YOU AND AVAYA INC. OR THE APPLICABLE AVAYA AFFILIATE ("CONTRACTOR"). IF YOU ARE ACCEPTING THESE SOFTWARE LICENSE TERMS ON BEHALF OF A COMPANY OR OTHER LEGAL ENTITY, YOU REPRESENT THAT YOU HAVE THE AUTHORITY TO BIND SUCH ENTITY TO THESE SOFTWARE LICENSE TERMS. IF YOU DO NOT HAVE SUCH AUTHORITY OR DO NOT WISH TO BE BOUND BY THESE SOFTWARE LICENSE TERMS, YOU MUST RETURN OR DELETE THE SOFTWARE WITHIN TEN (10) DAYS OF DELIVERY FOR A REFUND OF THE FEE, IF ANY, YOU PAID FOR THE LICENSE OR IF SOFTWARE IS ACCESSED ELECTRONICALLY, SELECT THE "DECLINE" BUTTON AT THE END OF THESE SOFTWARE LICENSE TERMS.

A. Scope. These Software License Terms are applicable to anyone who installs, downloads, and/or uses Contractor Software and/or Documentation, obtained from Contractor or an Contractor authorized reseller, distributor, direct partner, system integrator, or other partner authorized to provide A Software to End Users in the applicable territory ("Contractor Channel Partner"). You are not authorized to use the Software if the Software was obtained from anyone other than Contractor or a Contractor Channel Partner.

These Software License Terms govern your use of the Software and/ or Documentation except to the extent 1) you have a separate signed agreement with Contractor governing your use of the Software, 2) the Software is accompanied by a Shrinkwrap License, or 3) the Software is governed by Third Party Terms. If you have a separate signed purchase agreement with Contractor governing your use of the Software, such agreement shall take precedence over these Software License Terms to the extent of any conflict. With respect to third party elements subject to a Shrinkwrap License or other Third Party Terms,

the Shrinkwrap License or other Third Party Terms shall take precedence over any signed purchase Agreement with Contractor and these Software License Terms to the extent of any conflict.

"Software" means computer programs in object code, provided by Contractor or an Contractor Channel Partner, whether as stand-alone products or pre-installed on hardware products, and any upgrades, updates, bug fixes, or modified versions thereto. "Documentation" means information published by Contractor in varying mediums which may include product information, operating instructions and performance specifications that Contractor generally makes available to users of its products. Documentation does not include marketing materials.

B. License Grant. Contractor grants you a personal, non-sublicensable, non-exclusive, non-transferable license to use Software and associated Documentation obtained from Contractor or an Contractor Channel Partner and for which applicable fees have been paid for your internal business purposes at the indicated capacity and features and within the scope of the applicable license types described below and at locations where the Software is initially installed. Documentation shall be used only in support of the authorized use of the associated Software. Software installed on mobile-devices and clients, such as a laptop or mobile phone, may be used outside of the country where the software was originally installed, provided that such use is on a temporary basis only.

(i) **Right to Move License Entitlements.** Notwithstanding the foregoing limitation permitting use of the Software only at the location where it is initially installed, you may move right to use license entitlements (RTU's) for certain specified types of Software from one location to another in accordance with Contractor's then-current software license move policy for that Software ("License Portability Policy"), which is available upon request, subject to the following conditions:

(a) You shall provide written notice within ten (10) days to Contractor of any RTU moves including but not limited to, the number and type of licenses moved, the location of the original Server and the location of the new Server, the date of such RTU moves and any other information that Contractor may reasonably request;

(b) You may only move RTU's to and from Designated Processors or Servers supporting the same Software application;

(c) You must reduce the quantity of the licenses on the original Server by the number of RTU's being moved to the new Server.

(d) You acknowledge that (1) you may be charged additional fees when moving RTU's as per Contractor's then-current License Portability Policy, (2) maintenance services do not cover system errors caused by moves not performed by Contractor, (3) you are responsible for any programming, administration, design assurance, translation or other activity to make sure the Software will scale and perform as specified as a result of any license moves, and if any such transfer results in a requirement for Contractor system engineering or requires the use of on-site Contractor personnel, you will be charged the Time & Materials fees for such activity;

(e) If your maintenance coverage differs on licenses on the same product instance at the location of the new Server, service updates, recasts and/or fees may apply and any fee adjustments for differences in coverage will only be made on a going forward basis as of the date Contractor receives notice of the RTU move; and

(f) You may move RTU's from one Affiliate to another Affiliate provided that you comply with all of the conditions of this section, including, without limitation, providing the name and address of the new Affiliate in your written notice under subpart (a) above, and provided such new Affiliate agrees to be bound by these Software License Terms. "Affiliate" means any entity that is directly or indirectly controlling, controlled by, or under common control with Contractor or End User. For purposes of this definition, "control" means the power to direct the management and policies of such party, directly or indirectly, whether through ownership of voting securities, by contract or otherwise; and the terms "controlling" and "controlled" have meanings correlative to the foregoing.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

(ii) **Non-Production License Grant.** With respect to Software distributed by Contractor to you for non-production purposes, the scope of the license granted herein shall be to use the Software in a non-production environment solely for testing or other non-commercial purposes on a single computer ("Non-Production License").

C. All Rights Reserved. Contractor retains title to and ownership of the Software, Documentation, and any modifications or copies thereof. Except for the limited license rights expressly granted in these Software License Terms, Contractor reserves all rights, including without limitation copyright, patent, trade secret, and all other intellectual property rights, in and to the Software and Documentation and any modifications or copies thereof,. The Software contains trade secrets of Contractor, its suppliers, or licensors, including but not limited to the specific design, structure and logic of individual Software programs, their interactions with other portions of the Software, both internal and external, and the programming techniques employed.

D. General License Restrictions. To the extent permissible under applicable law, you agree not to: (i) decompile, disassemble, reverse engineer, reverse translate or in any other manner decode the Software; (ii) alter, modify or create any derivative works or enhancements, adaptations, or translations of the Software or Documentation; (iii) sell, sublicense, lease, rent, loan, assign, convey or otherwise transfer the Software or Documentation except as expressly authorized by Contractor in writing, and any attempt to do so is void; (iv) distribute, disclose or allow use of the Software or Documentation, in any format, through any timesharing service, service bureau, network or by any other similar means except as expressly authorized by Contractor in writing; (v) allow any service provider or other third party, with the exception of Contractor's authorized maintenance providers who are acting solely on behalf of and for the benefit of End User, to use or execute any software commands that facilitate the maintenance or repair of any product; (vi) gain access to or the use of any Software or part thereof without authorization from Contractor; (vii) enable or activate, or cause, permit or allow others to enable or activate any logins reserved for use by Contractor or Contractor's authorized maintenance providers; (viii) publish the results of any tests run on the Software; (ix) disclose, provide, or otherwise make available to any third party any trade secrets contained in the Software or Documentation; or (x) permit or encourage any third party to do any of the foregoing.

End User agrees not to allow anyone other than its authorized employees, agents or representatives who have a need to use the Software or Documentation to have access to the Software or Documentation. End User agrees to inform any third party to whom you give access to the Software or Documentation of these Software License Terms and shall obligate such third party to comply with such terms and provisions. End User shall be responsible for any third party's failure to comply with these Software License Terms and shall indemnify Contractor for any damages, loss, expenses or costs, including attorneys' fees and costs of suit, incurred by Contractor as a result of non-compliance with this section.

If the Software is rightfully located in a member state of the European Union and End User needs information about the Software in order to achieve interoperability of an independently created software program with the Software, End User will first request such information from Contractor. Contractor may charge End User a reasonable fee for the provision of such information. End User shall maintain such information in strict confidence using no less than the same care it uses to protect its own confidential information and shall use such information only in accordance with the terms and conditions under which Contractor provides such information. To the extent that the End User is expressly permitted by applicable mandatory law to undertake any activities related to achieving interoperability of an independently created software program with the Software, End User will not exercise those rights until End User has given Contractor twenty (20) days written notice of its intent to exercise any such rights.

E. Proprietary Rights Notices. End User shall affix to each copy of the Software made by End User, in the same form and location, a reproduction of the copyright notices, trademarks, and all other proprietary legends and/or logos of Contractor and/or Contractor's suppliers appearing on the original copy of the Software delivered to End User, and shall retain the same without alteration on all original copies.

F. Backup Copies. End User may create a reasonable number of archival and backup copies of the Software and the Documentation.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

G. Upgrades – End User's right to use any upgrades to the Software shall be conditioned upon End User having a valid license to use the original Software and paying the applicable license fee to Contractor or a Contractor Channel Partner for such upgrade.

H. Warranty. Contractor's Global Product Warranty Policy for End Users, which details a limited warranty for Software and Software media and the applicable procedures, exclusions, and disclaimers, is available through the following website: http://support.avaya.com. Please note that if you are acquiring the Software from a Contractor Channel Partner outside the United States of America or Canada, the warranty is provided to you by said Contractor Channel Partner and not by Contractor.

I. Compliance. Contractor and the Contractor Channel Partner who provided the Software have the right to inspect or audit by remote polling or other reasonable means, and to inspect End User's books, records, and accounts during normal business hours and with reasonable notice, to determine End User's compliance with these Software License Terms, including but not limited to usage levels. In the event such inspection or audit uncovers non-compliance with these Software License Terms, then without prejudice to Contractor's termination rights hereunder, End User shall promptly pay Contractor any applicable license fees. End User agrees to keep a current record of the location of the Software.

J. Termination of License; Effect of Termination/ Expiration. If you breach these Software License Terms and if within ten (10) business days of your receipt of a reasonably detailed written request to cure, you have not cured all breaches of license limitations or restrictions, Contractor may, with immediate effect, terminate the licenses granted in these Software License Terms without prejudice to any available rights and remedies Contractor may have at law or in equity. Upon termination or expiration of the license for any reason, you must immediately permanently destroy all copies of the Software and any related materials in your possession or control and, upon Contractor's request, certify such destruction in writing. The provisions concerning confidentiality, the protection of trade secrets and proprietary rights, indemnity, license restrictions, export control, and all limitations of liability and disclaimers and restrictions of warranty (as well as any other terms which, by their nature, are intended to survive termination) will survive any termination or expiration of the Software License Terms.

K. License Types. Contractor grants you a license within the scope of the license types described below, with the exception of Heritage Nortel Software, for which the scope of the license is detailed in Section L below. Where the order documentation does not expressly identify a license type, the applicable license will be a Designated System License. The applicable number of licenses and units of capacity for which the license is granted will be one (1), unless a different number of licenses or units of capacity is specified in the documentation or other materials available to you. "Designated Processor" means a single stand-alone computing device. "Server" means a Designated Processor that hosts a software application to be accessed by multiple users.

Designated System(s) License (DS). End User may install and use each copy of the Software only on a number of Designated Processors up to the number indicated in the order. Contractor may require the Designated Processor(s) to be identified in the order by type, serial number, feature key, location or other specific designation, or to be provided by End User to Contractor through electronic means established by Contractor specifically for this purpose.

Concurrent User License (CU). End User may install and use the Software on multiple Designated Processors or one or more Servers, so long as only the licensed number of Units are accessing and using the Software at any given time. A "Unit" means the unit on which Contractor, at its sole discretion, bases the pricing of its licenses and can be, without limitation, an agent, port or user, an e-mail or voice mail account in the name of a person or corporate function (e.g., webmaster or helpdesk), or a directory entry in the administrative database utilized by the Software that permits one user to interface with the Software. Units may be linked to a specific, identified Server.

Database License (DL). End User may install and use each copy of the Software on one Server or on multiple Servers provided that each of the Servers on which the Software is installed communicates with no more than a single instance of the same database.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

CPU License (CP). End User may install and use each copy of the Software on a number of Servers up to the number indicated in the order provided that the performance capacity of the Server(s) does not exceed the performance capacity specified for the Software. End User may not re-install or operate the Software on Server(s) with a larger performance capacity without Contractor's prior consent and payment of an upgrade fee.

Named User License (NU). You may: (i) install and use the Software on a single Designated Processor or Server per authorized Named User (defined below); or (ii) install and use the Software on a Server so long as only authorized Named Users access and use the Software. "Named User," means a user or device that has been expressly authorized by Contractor to access and use the Software. At Contractor's sole discretion, a "Named User" may be, without limitation, designated by name, corporate function (e.g., webmaster or helpdesk), an e-mail or voice mail account in the name of a person or corporate function, or a directory entry in the administrative database utilized by the Software that permits one user to interface with the Software.

Shrinkwrap License (SR). You may install and use the Software in accordance with the terms and conditions of the applicable license agreements, such as "shrinkwrap" or "clickthrough" license accompanying or applicable to the Software ("Shrinkwrap License").

L. Heritage Nortel Software. "Heritage Nortel Software" means the software that was acquired by Contractor as part of its purchase of the Nortel Enterprise Solutions Business in December 2009. The Heritage Nortel Software currently available for license from Contractor is the software contained within the list of Heritage Nortel Products located at http://support.avaya.com/licenseinfo under the link "Heritage Nortel Products." For Heritage Nortel Software, Contractor grants Customer a license to use Heritage Nortel Software provided hereunder solely to the extent of the authorized activation or authorized usage level, solely for the purpose specified in the Documentation, and solely as embedded in, for execution on, or (in the event the applicable Documentation permits installation on non-Avaya equipment) for communication with Contractor equipment. Charges for Heritage Nortel Software may be based on extent of activation or use authorized as specified in an order or invoice.

M. Third Party Components. Certain software programs or portions thereof included in the Software may contain software (including open source software) distributed under third party agreements ("Third Party Components"), which may contain terms that expand or limit rights to use certain portions of the Software ("Third Party Terms"). Information regarding distributed Linux OS source code (for those product that have distributed Linux OS source code) and identifying the copyright holders of the Third Party Components and the Third Party Terms that apply is available in the Documentation or on Contractor's website at: http://support.avaya.com/Copyright. You agree to the Third Party Terms for any such Third Party Components.

N. Limitation of Liability. EXCEPT FOR PERSONAL INJURY CLAIMS OR WILLFUL MISCONDUCT AND TO THE EXTENT PERMITTED UNDER APPLICABLE LAW, NEITHER CONTRACTOR, ITS SUPPLIERS, NOR ANY OF THEIR DIRECTORS, OFFICERS, EMPLOYEES, OR AGENTS SHALL BE LIABLE FOR (i) ANY INCIDENTAL, SPECIAL, PUNITIVE, EXEMPLARY, STATUTORY, INDIRECT OR CONSEQUENTIAL DAMAGES, (ii) ANY LOSS OF PROFITS, REVENUE, OR DATA, TOLL FRAUD, OR COST OF COVER OR (iii) ANY DIRECT DAMAGES ARISING UNDER THESE SOFTWARE LICENSE TERMS IN EXCESS OF THE FEES PAID FOR THE SOFTWARE GIVING RISE TO THE CLAIM. REGARDLESS OF WHETHER THEY WERE ADVISED, HAD OTHER REASON TO KNOW, OR IN FACT KNEW OF THE POSSIBILITY THEREOF. THE LIMITATIONS OF LIABILITY IN THIS SECTION WILL APPLY TO ANY DAMAGES, HOWEVER CAUSED, AND ON ANY THEORY OF LIABILITY, WHETHER FOR BREACH OF CONTRACT, TORT (INCLUDING, BUT NOT LIMITED TO, NEGLIGENCE), OR OTHERWISE.

O. Protection of Software and Documentation. End User acknowledges that the Software and Documentation are confidential information of Contractor and its suppliers and contain trade secrets of Contractor and its suppliers. End User agrees at all times to protect and preserve in strict confidence the Software and Documentation using no less than the level of care End User uses to protect its own

information of a confidential nature and to implement reasonable security measures to protect the trade secrets of Contractor and its suppliers.

P. Personal Data. The download or use of the Software may require the processing of personal data (including, but not limited to contact name, company address, company phone or fax, or company email) pertaining to your company or to your company's personnel. Such data will be used by Contractor for communication, administrative, and operational purposes related to the Software, including but not limited to tracking Software activations, communicating regarding trouble tickets and alarms, and providing Software updates. Personal data required to download or use the Software must be submitted to Contractor. Failing the submission of such data, the download or use of the Software may not be possible. You or your personnel have a right to access and correct erroneous personal data pertaining to you or your personnel and to object for legitimate reasons to the processing and transfer of this data. You can exercise this right by contacting in writing the Data Privacy Officer of the applicable Contractor Affiliate.

Q. High Risk Activities. The Software is not fault-tolerant and is not designed, manufactured or intended for any use in any environment that requires fail-safe performance in which the failure of the Software could lead to death, personal injury or significant property damage ("High Risk Activities"). Such environments include, among others, control systems in a nuclear, chemical, biological or other hazardous facility, aircraft navigation and communications, air traffic control, and life support systems in a healthcare facility. End User assumes the risks for its use of the Software in any such High Risk Activities.

R. Export Control. End User is advised that the Software is of U.S. origin and subject to the U.S. Export Administration Regulations (EAR). The Software also may be subject to applicable local laws and regulations. Diversion contrary to U.S. and/ or applicable local country law and/ or regulation is prohibited. You agree not to directly or indirectly export, re-export, import, download, or transmit the Software to any country, end user or for any use that is contrary to applicable U.S. and/ or local country regulation or statute (including but not limited to those countries embargoed by the U.S. government). You represent that neither the U.S. Bureau of Industry and Security (BIS) nor any other governmental agency has issued sanctions against End User or otherwise suspended, revoked or denied End User's export privileges. You agree not to use or transfer the Software for any use relating to nuclear, chemical or biological weapons, or missile technology, unless authorized by the U.S. and applicable local government by regulation or specific written license. Additionally, you are advised that the Software may contain encryption algorithm or source code that may not be exported to government or military end users without a license issued by the U.S. BIS and any other country's governmental agencies, where applicable.

S. U.S Government End Users. The Software is classified as "commercial computer software" and the Documentation is classified as "commercial computer software documentation" or "commercial items," pursuant to 48 CFR FAR 12.212 or DFAR 227.7202, as applicable. Any use, modification, reproduction, release, performance, display or disclosure of the Software or Documentation by the Government of the United States shall be governed solely by the terms of these Software License Terms and shall be prohibited except to the extent expressly permitted by these Software License Terms, and any use of the Software and/ or Documentation by the Government constitutes agreement to such classifications and to these Software License Terms.

T. Acknowledgement. End User acknowledges that certain Software may contain programming that: (i) restricts, limits and/or disables access to certain features, functionality or capacity of such Software subject to the End User making payment for licenses to such features, functionality or capacity; or (ii) periodically deletes or archives data generated by use of the Software and stored on the applicable storage device if not backed up on an alternative storage medium after a certain period of time.

U. Miscellaneous. These Software License Terms will be governed by New York law, excluding choice of law principles and the United Nations Convention on Contracts for the International Sale of Goods. Any claim, dispute or controversy (collectively a "Claim") arising out of or relating to these Software License Terms, including without limitation the formation, interpretation, breach or termination hereof, or any issue regarding whether a Claim is subject to arbitration hereunder, that cannot be settled by good faith

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

negotiation between the parties within a reasonable period of time, will be conclusively determined by a final and binding arbitration proceeding to take place in New York City, New York. Such proceeding will be conducted in English and administered by JAMS pursuant to the JAMS Comprehensive Arbitration Rules and Procedures then in effect, or in the event one of the parties is located outside of the United States, pursuant to the JAMS International Arbitration Rules then in effect, before a panel of one arbitrator chosen in accordance with such rules. The arbitrator will not award punitive or exemplary damages, and will not have the authority to limit, expand or otherwise modify the Software License Terms. The ruling by the arbitrator may be entered in any court having jurisdiction over the parties or any of their assets. The parties will evenly split the cost of the arbitrator's fees, but each party will bear their own attorneys' fees and other costs associated with the arbitration. The parties agree that this arbitration provision may be enforced by injunction or other equitable order, and no bond or security of any kind will be required with respect to any such injunction or order. In addition and notwithstanding the foregoing, Contractor shall be entitled to take any necessary legal action, including without limitation seeking immediate injunctive relief from a court of competent jurisdiction, in order to protect Contractor's intellectual property and its confidential or proprietary information (including but not limited to trade secrets). If any provision of these Software License Terms is determined to be unenforceable or invalid, these Software License Terms will not be rendered unenforceable or invalid as a whole, and the provision will be changed and interpreted so as to best accomplish the objectives of the original provision within the limits of applicable law. The failure to assert any rights under the Software License Terms, including, but not limited to, the right to terminate in the event of breach or default, will not be deemed to constitute a waiver of the right to enforce each and every provision of the Software License Terms in accordance with their terms. If you move any Software, and as a result of such move, a jurisdiction imposes a duty, tax, levy or fee (including withholding taxes, fees, customs or other duties for the import and export of any such Software), then you are solely liable for, and agree to pay, any such duty, taxes, levy or other fees.

V. Agreement in English. The parties confirm that it is their wish that these Software License Terms, as well as all other documents relating hereto, including all notices, have been and shall be drawn up in the English language only. Les parties aux présentes confirment leur volonté que cette convention, de même que tous les documents, y compris tout avis, qui s'y rattachent, soient rédigés en langue anglaise. Las partes ratifican que es su voluntad que este Contrato, así como cualquier otro documento relacionado con el mismo, incluyendo todo tipo de notificaciones, han sido redactados y deberán continuar siendo redactados únicamente en el idioma inglés.

17.2 INTELLECTUAL PROPERTY RIGHTS.

17.2.1 Participating Entity Owns Participating Entity IP. Participating Entity reserves all rights, including, but not limited to, ownership, title, intellectual property rights and all other rights and interest in and to any computer programs (in object or source code format or any other form), know-how, inventions, processes, data bases, documentation, training materials and any other intellectual property and any tangible embodiments of it (collectively "Intellectual Property" or "IP") Participating Entity, as applicable, owns and makes available to Contractor (collectively "Participating Entity IP") under this Contract.

17.2.2 Contractor Owns Contractor IP. Contractor reserves all rights, including, but not limited to, ownership, title, and all other rights and interest in, and to, any Intellectual Property that Contractor owned prior to providing Services under the Contract, any Intellectual Property that Contractor develops, creates, or otherwise acquires independently of this Contract, and any Intellectual Property that Contractor develops, creates, or otherwise acquires (excluding Participating Entity IP) while performing Services under the Contract.

17.2.3 Participating Entity Ownership of Delivered Software. Upon the effective date of this Contract, neither party contemplates that the Participating Entity will order customized deliverables from Contractor that will result in the transfer of any ownership rights of Software or other proprietary data from Contractor to the Participating Entity. Prior to any obligation of Contractor to transfer such rights, a written amendment to this Contract shall be executed by authorized representatives of both parties expressly identifying the subject intellectual property and identifying the ownership rights that will be transferred.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

18. NO WAIVER OF SOVEREIGN IMMUNITY In no event shall this Master Agreement, any Participating Addendum or any contract or any purchase order issued thereunder, or any act of a Lead State or a Participating Entity, be a waiver by the Participating Entity of any form of defense or immunity, whether sovereign immunity, governmental immunity, immunity based on the Eleventh Amendment to the Constitution of the United States or otherwise, from any claim or from the jurisdiction of any court. If a claim must be brought in a federal forum, then it must be brought and adjudicated solely and exclusively within the United States District Court for the Participating State. This section applies to a claim brought against the Participating State only to the extent Congress has appropriately abrogated the Participating State's sovereign immunity and is not consent by the Participating State to be sued in federal court. This section is also not a waiver by the Participating State of any form of immunity, including but not limited to sovereign immunity and immunity based on the Eleventh Amendment to the Constitution of the United States.

Avaya Response:

Understood.

19. ORDER NUMBERS Master Agreement order and purchase order numbers shall be clearly shown on all acknowledgments, shipping labels, packing slips, invoices, and on all correspondence.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully requests that Section 19 (Order Numbers) be replaced with the following:

19. ORDER NUMBERS. Contractor or each Fulfillment Partner shall utilize its standard method for generating acknowledgments, shipping labels, packing slips, invoices, and correspondence. PO number will only appear on invoices only if provided at time of order upload.

20 PARTICIPANTS WSCA-NASPO is the cooperative purchasing arm of the National Association of State Procurement Officials. It is a cooperative group contracting consortium for state government departments, institutions, agencies and political subdivisions (e.g., colleges, school districts, counties, cities, etc.,) for all 50 states, the District of Columbia and the organized US territories. Obligations under this Master Agreement are limited to those Participating States who have signed a Participating Addendum where contemplated by the solicitation. Financial obligations of Participating States are limited to the orders placed by the departments or other state agencies and institutions having available funds. Participating States incur no financial obligations on behalf of political subdivisions. Unless otherwise specified in the solicitation, the resulting award(s) will be permissive.

Avaya Response:

Understood.

21. ENTITY PARTICIPATION Use of specific WSCA-NASPO cooperative Master Agreements by state agencies, political subdivisions and other entities (including cooperatives) authorized by individual state's statutes to use state contracts are subject to the approval of the respective State Chief Procurement Official. Issues of interpretation and eligibility for participation are solely within the authority of the respective State Chief Procurement Official.

Avaya Response:

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Understood.

22. PAYMENT Payment for completion of a contract order is normally made within 30 days following the date the entire order is delivered or the date a correct invoice is received, whichever is later. After 45 days the Contractor may assess overdue account charges up to a maximum rate of one percent per month on the outstanding balance. Payments will be remitted by mail. Payments may be made via a State or political subdivision "Purchasing Card" with no additional charge.

Avaya Response:

Understood.

23. PUBLIC INFORMATION This Master Agreement and all related documents are subject to disclosure pursuant to the Participating Entity's public information laws.

Avaya Response:

Understood.

24. RECORDS ADMINISTRATION AND AUDIT The contractor will maintain, or supervise the maintenance of all records necessary to properly account for the payments made to the contractor for costs authorized by this Master Agreement. These records will be retained by the contractor for at least four years after the Master Agreement terminates, or until all audits initiated within the four years have been completed, whichever is later. The contractor agrees to allow WSCA-NASPO, State and Federal auditors, and state agency staff access to all the records of this Master Agreement and any order placed under this Master Agreement, for audit and inspection, and monitoring of services. Such access will be during normal business hours, or by appointment.

Avaya Response:

Understood.

25. REPORTS and ADMINISTRATIVE FEES The contractor shall submit quarterly reports to the WSCA-NASPO Contract Administrator showing the quantities and dollar volume of purchases by each participating entity.

The contractor must pay a WSCA-NASPO administrative fee of one quarter of one percent (.25%) in accordance with the terms and conditions of the Master Agreement. The WSCA¬NASPO administrative fee shall be submitted quarterly and is based on sales of products and services. The WSCA-NASPO administration fee is not negotiable. This fee is to be included as part of the pricing submitted with proposal.

Additionally, some States may require that an additional fee be paid directly to the State on purchases made by procuring entities within that State. For all such requests, the fee level, payment method and schedule for such reports and payments will be incorporated in a Participating Addendum that is made a part of the Master Agreement. The contractor may adjust the Master Agreement pricing accordingly for purchases made by procuring agencies within the jurisdiction of the State. All such agreements may not affect the WSCA-NASPO administrative fee or the prices paid by the procuring agencies outside the jurisdiction of the State requesting the additional fee.

Avaya Response:

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Understood.

26. STANDARD OF PERFORMANCE AND ACCEPTANCE The Standard of Performance applies to all Product(s) purchased under this Master Agreement, including any additional, replacement, or substitute Product(s) and any Product(s) which are modified by or with the written approval of Contractor after Acceptance by the Participating Entity. The Acceptance Testing period shall be thirty (30) calendar days or other time period identified in the solicitation or the Participating Addendum, starting from the day after the Product is installed and Contractor certifies that the Product is ready for Acceptance Testing. If the Product does not meet the Standard of Performance during the initial period of Acceptance Testing, Participating Entity may, at its discretion, continue Acceptance Testing on a day-to-day basis until the Standard of Performance is met. Upon rejection, the Contractor will have fifteen (15) calendar days to cure the Standard of Performance issue(s). If after the cure period, the Product still has not met the Standard of Performance Participating Entity may, at its option: (1) declare Contractor to be in breach and terminate the Order; (2) demand replacement Product from Contractor at no additional cost to Participating Entity; or, (3) continue the cure period for an additional time period agreed upon by the Participating Entity and the Contractor. Contractor shall pay all costs related to the preparation and shipping of Product returned pursuant to the section. No Product shall be accepted and no charges shall be paid until the Standard of Performance is met. The warranty period will begin upon Acceptance.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully submits its request that in lieu of the above Section 26 (Standard of Performance and Acceptance), please reference Avaya's proposed Section 8.9 to these WSCA-NASPO Master Agreement Terms and Conditions and new Avaya proposed Section # 34 (Contractor's Implementation and Professional services Terms), Subsection 34.2 (Acceptance) to address acceptance criteria.

27. SYSTEM FAILURE OR DAMAGE In the event of system failure or damage caused by the Contractor or its Product, the Contractor agrees to use its best efforts to restore or assist in restoring the system to operational capacity.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully submits the request that in lieu of the above Section 27 (System Failure or Damage), please refer to Avaya's proposed modification to Section 30 (Contractor's Warranty) and new Section # 33 (Contractors Maintenance and Managed Services Terms and Conditions) to these WSCA-NASPO Master Agreement Terms and Conditions.

28. TITLE OF PRODUCT Upon Acceptance by the Participating Entity, Contractor shall convey to Participating Entity title to the Product free and clear of all liens, encumbrances, or other security interests.Transfer of title to the Product shall include an irrevocable and perpetual license to use the Embedded Software in the Product. If Participating Entity subsequently transfers title of the Product to another entity, Participating Entity shall have the right to transfer the license to use the Embedded Software with the transfer of Product title. A subsequent transfer of this software license shall be at no additional cost or charge to either Participating Entity or Participating Entity's transferee.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully submits the request that in lieu of the above Section 28 (Title of Product), please refer to Avaya's

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

requested exceptions set out in Section 8.9 to these WSCA-NASPO Master Agreement Terms and Conditions

29. WAIVER OF BREACH Failure of Lead State or Participating Entity to declare a default or enforce any rights and remedies shall not operate as a waiver under this Master Agreement or Participating Addendum. Any waiver by the Lead State or Participating Entity must be in writing. Waiver by the Lead State or Participating Entity of any default, right or remedy under this Master Agreement or Participating Addendum, or breach of any terms or requirements shall not be construed or operate as a waiver of any subsequent default or breach of such term or requirement, or of any other term or requirement under this Master Agreement or Participating Addendum.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully requests that Section 29 of this WSCA-NASPO Master Agreement be made mutual.

30. WARRANTY The Contractor warrants for a period of one year from the date of Acceptance that: (a) the Product performs according to all specific claims that the Contractor made in its response to the solicitation, (b) the Product is suitable for the ordinary purposes for which such Product is used, (c) the Product is suitable for any special purposes identified in the solicitation or for which the Participating Entity has relied on the Contractor's skill or judgment, (d) the Product is designed and manufactured in a commercially reasonable manner, and (e) the Product is free of defects. Upon breach of the warranty, the Contractor will repair or replace (at no charge to the Participating Entity) the Product whose nonconformance is discovered and made known to the Contractor. If the repaired and/or replaced Product proves to be inadequate, or fails of its essential purpose, the Contractor will refund the full amount of any payments that have been made. The rights and remedies of the parties under this warranty are in addition to any other rights and remedies of the parties provided by law or equity, including, without limitation, actual damages, and, as applicable and awarded under the law, to a prevailing party, reasonable attorneys' fees and costs.

Avaya Response:

Understood. Please see RFP Sections 4.2 and 7.2.5 for Avaya's requested exceptions with regards to Avaya's standard warranty. Avaya respectfully submits the request that Section 30 (Warranty) of this WSCA-NASPO Master Agreement be replaced with the following:

30. Avaya Global Product Warranty Policy for End Users

30.1 Scope of Policy

30.1.1 Avaya warrants to End User that during the applicable warranty period the Avaya Products will conform to and operate in accordance with the applicable Documentation in all material respects.

30.1.2 This policy applies globally to all Avaya Products purchased by End Users directly from Avaya. In the United States and Canada it also applies to Products purchased by End Users from Avaya Channel Partners. It does not apply to Products acquired by End Users from Channel Partners outside of the United States and Canada where the warranty to the End User is provided by the Channel Partner and not by Avaya.

30.2 Standard Limited Warranty Period for Hardware

Unless otherwise stated specifically by Avaya, the following periods apply:

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

a) Twelve (12) months, beginning on the In-Service date, for Hardware purchased directly from and installed by Avaya.

b) Twelve (12) months, beginning on the Delivery Date, for all other Hardware purchased directly from Avaya or a Channel Partner where Avaya does not install the Hardware. This includes Hardware purchased by Channel Partners for internal use.

30.3 Standard Limited Warranty Period for Software and Software Media

Unless otherwise stated specifically by Avaya, the following periods apply:

a) Ninety (90) days, beginning on the In-Service Date, for Software purchased directly from and installed by Avaya.

b) Ninety (90) days, beginning on the Delivery Date, for all other Software purchased directly from Avaya or a Channel Partner where Avaya does not install the Software. This includes Software purchased by Channel Partners for internal use.

30.4 Select Product Lifetime Warranty

Avaya offers a lifetime warranty for select Avaya Data Solutions Products, as specified at Avaya's support site http://downloads.avaya.com/css/P8/documents/100148612. The lifetime warranty begins on the Delivery Date and ends five (5) years after the Product's End of Sale date, as determined by Avaya.

30.5 Warranty Exclusions

The warranties do not extend to any damages, malfunctions, or non-conformities caused by (i) use of the Products in violation of the license granted by Avaya or in a manner inconsistent with the Documentation; (ii) normal wear due to Product use, including but not limited to Product cosmetics and display scratches; (iii) use of non-Avaya furnished equipment, software, or facilities with Products (except to the extent provided in the Documentation); (iv) failure to follow installation, operation or maintenance instructions; (v) failure to permit Avaya timely access, remote or otherwise, to Products; or (vi) failure to implement all new updates to Software. An "Update" is a change in the Software that provides corrective content for maintenance purposes only. Updates are generally available to Products under warranty and to subscribers to Avaya's Product support or maintenance services. Warranties do not extend to Products that have been altered (including alteration of serial numbers), serviced or modified by a party other than Avaya or a third party specifically authorized by Avaya to provide the service or modification.

30.6 Products from Third Parties

Avaya provides Third Party Products on an "AS IS" BASIS WITHOUT WARRANTIES OF ANY KIND unless Avaya specifies otherwise. However, such Third Party Products may carry their own warranties and Avaya shall pass through to End User any such warranties to the extent authorized. Exercise of such warranty shall be directly between End User and the third party provider.

30.7 Toll Fraud

Avaya does not warrant that Products will prevent Toll Fraud. Prevention of Toll Fraud is the responsibility of End User. The term "Toll Fraud" refers to the unauthorized use of telecommunications services or facilities accessed through or connected to the Products.

30.8 Warranty Procedures and Remedies

End Users who purchased the Product directly from Avaya should contact Avaya. End Users who purchased the Product from an authorized Avaya Channel Partner in the United States or Canada should contact the Channel Partner for assistance in making warranty claims to Avaya. If a Product is not in conformance with the warranty above and Avaya receives a written notice during the applicable warranty period describing in reasonable detail how the Product failed to be in conformance, and including evidence that the product is under warranty (i.e. a valid invoice, and in some cases this may also require Product registration with Avaya), Avaya at its option will: (i) repair or replace the Product to achieve conformance and return the Product; or (ii) refund the applicable fees upon return of the non-conforming

Product to Avaya. For Software warranty, Avaya provides access to available software corrective content and product support knowledge base on a self-service basis. Replacement Hardware may be new, factory reconditioned, refurbished, re-manufactured or functionally equivalent and will be furnished only on an exchange basis. Returned Hardware that has been replaced by Avaya will become Avaya's property. Replacement Products are warranted as above for the remainder of the original applicable Product warranty period. THESE REMEDIES WILL BE END USER'S SOLE AND EXCLUSIVE REMEDIES AND WILL BE IN LIEU OF ANY OTHER RIGHTS OR REMEDIES END USER MAY HAVE AGAINST AVAYA WITH RESPECT TO THE NONCONFORMANCE OF PRODUCTS.

30.9 Disclaimers

EXCEPT AS REFERENCED AND LIMITED IN THIS DOCUMENT, NEITHER AVAYA NOR ITS LICENSORS OR SUPPLIERS MAKES ANY EXPRESS REPRESENTATIONS OR WARRANTIES WITH REGARD TO ANY PRODUCTS. AVAYA DOES NOT WARRANT UNINTERRUPTED OR ERROR FREE OPERATION OF PRODUCTS OR THAT THE PRODUCTS WILL PREVENT TOLL FRAUD. TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, AVAYA DISCLAIMS ALL IMPLIED OR STATUTORY WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. THE WARRANTY REMEDIES EXPRESSLY PROVIDED IN THIS DOCUMENT WILL BE END USER'S SOLE AND EXCLUSIVE REMEDIES.

30.10 General

30.10.1 This policy applies to all Products sold under the Avaya brand including heritage Nortel products, and combines and supersedes all earlier versions.

30.10.2 To the extent there is a conflict between this policy and an agreement between Avaya and the End User or Channel Partner, the terms of the agreement will prevail.

30.10.3 If any provision of this policy is determined to be unenforceable or invalid by court decision, the policy will not be rendered unenforceable or invalid as a whole, and the provision will be changed and interpreted so as to best accomplish the objectives of the original provision within the limits of applicable law.

30.10.4 Avaya is not responsible for any warranty, support or maintenance commitments made by Channel Partners or other service providers. Avaya reserves the right to amend or change this policy at its sole discretion at any time, and this policy shall not be interpreted to create any contractual obligation by Avaya to provide support to any specific customer, Channel Partner or other service provider.

30.11 Definitions

"Channel Partner" means a company authorized by Avaya to purchase or license Avaya Products or services and to resell them as so authorized.

"Delivery Date" means the date on which Avaya or the Channel Partner, as the case may be, delivers the Products to End Users, or in the case of Software features that are enabled by license files, software activations or any other electronic means, "Delivery Date" means the date when the Product or Product features are enabled in Avaya's license management systems.

"Documentation" means information published by Avaya in varying mediums which may include product information, operating instructions and performance specifications that Avaya generally makes available to users of its Products. Documentation does not include marketing materials.

"End User" means a third party that purchases Products from Avaya or a Channel Partner in the United States or Canada for the internal use by such third party and not for resale or sublicense.

"Hardware" means the standard hardware products that End User orders and Avaya delivers directly or through a Channel Partner in the United States or Canada. Hardware does not include any customized deliverables that Avaya creates specifically for End User.

"In-Service Date" means the date of notification to End User that the Products are installed in good working order in accordance with applicable Documentation.

"Product" means Hardware and Software, or any combination thereof.

"Software" means the computer programs in object code form that End User orders and Avaya delivers directly or through a Channel Partner in the United States or Canada, whether as stand-alone products or pre-installed on Hardware. Software does not include any customized deliverables that Avaya creates specifically for End User.

"Third Party Products" means any products manufactured by a party other than Avaya, and may include, without limitation, products ordered by End User from third parties pursuant to Avaya's recommendations. However, components of Avaya-branded Products are not Third Party Products if they are both: (i) embedded in Products (i.e., not recognizable as standalone items); and (ii) not identified as separate items on Avaya's price list, quotes, order specifications forms or Documentation.

30.11 More Information

For additional information about Avaya Product Warranties please refer to the following website:

https://support.avaya.com/helpcenter/getGenericDetails?detailId=C20091120112456651010

30.12. Beta Software. The above warranty DOES NOT apply to any beta software, any software made available for testing or demonstration purposes, any temporary software modules or any software for which Avaya does not receive a license fee. All such software is provided AS IS without any warranty whatsoever.

31. ASSIGNMENT OF ANTITRUST RIGHTS Contractor irrevocably assigns to a Participating Entity any claim for relief or cause of action which the Contractor now has or which may accrue to the Contractor in the future by reason of any violation of state or federal antitrust laws (15 U.S.C. § 1-15 or a Participating Entity's state antitrust provisions), as now in effect and as may be amended from time to time, in connection with any goods or services provided to the Contractor for the purpose of carrying out the Contractor's obligations under this Master Agreement or Participating Addendum, including, at a Participating Entity's option, the right to control any such litigation on such claim for relief or cause of action.

Contractor shall require any subcontractors hired to perform any of Contractor's obligations, under this Master Agreement or Participating Addendum, to irrevocably assign to a Participating Entity, as third party beneficiary, any right, title or interest that has accrued or which may accrue in the future by reason of any violation of state or federal antitrust laws (15 U.S.C. § 1-15 or a Participating Entity's state antitrust provisions), as now in effect and as may be amended from time to time, in connection with any goods or services provided to the subcontractor for the purpose of carrying out the subcontractor's obligations to the Contractor in pursuance of this Master Agreement or Participating Addendum, including, at a Participating Entity's option, the right to control any such litigation on such claim for relief or cause of action.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exception, and Avaya respectfully requests that this section 31 (Assignment of Antitrust Rights) be deleted in its entirety.

32. WSCA-NASPO eMARKET CENTER Awarded responders are required to participate in the WSCA-NASPO eMarket Center and, working through WSCA-NASPO's contractor (SciQuest), connect with the eMarket Center. The ideal situation would be to use either a hosted (by SciQuest) or Punchout Level 2 catalog configurations, but actual requirements will be determined by the Lead State Contract Administrator, WSCA-NASPO, WSCA-NASPO's contractor

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

(SciQuest) and the awarded contractor, after award. Participation does not require an awarded responder to have any special level of technology or technological understanding.

Avaya Response:

Understood.

Proposed New Section:

Please refer to RFP Section 7.2.5. Following is Avaya's requested exception to add a new Section 33 to the WSCA-NASPO Master Agreement Terms and Conditions, titled, **Contractor's Maintenance/ Managed Services Terms:**

33. Contractor Maintenance/Managed Services Terms

These **MAINTENANCE AND MANAGED SERVICES TERMS** apply if and to the extent Authorized User acquires Maintenance/Managed Services.

33.1. order, provision and scope of Services

33.1.1 Order and Provision of Services. In return for the payment of the fees specified in the order, Contractor will provide the Maintenance/Managed Services options for Supported Products or Supported Systems at Supported Sites, as described further in this Attachment and the SAS or Service Description (for purposes of this Attachment, "Services"). The "Service Agreement Supplement" or "SAS" is the applicable Avaya Service Agreement Supplement then current as of the date of Contractor's acceptance of an order for Services and available to the Participating Entity upon request. The parties may execute a statement of work describing specific Services to be provided by Contractor ("Statement of Work" or " SOW"). As used in this Attachment, "SAS" refers to the Service Agreement Supplement or Statement of Work, as applicable. "Supported Products" are: (i) hardware or Software Products identified in the order; and (ii) Added Products (defined in Section 1.8). Supported Products may include non-Avaya products to the extent they are specified in the order. "Supported Systems" are a group of products or networks specified in the order. "Supported Sites" are locations specified in the order.

33.1.2 Documents and Order of Precedence. Unless otherwise provided for in these Maintenance/Managed Services Terms, in the event of conflict among the General Terms, these Maintenance/Managed Services Terms; the SAS and any ancillary attachments to or documents referenced in the SAS, the order of precedence is: (i) these Maintenance/Managed Services Terms; (ii) the General Terms; (iii) SAS; and (iv) ancillary documents, except that in relation to limitations of liability, licensing provisions, intellectual property rights and intellectual property rights indemnification, the provisions contained in the General Terms will always take priority.

33.1.3 Monitoring. Contractor may electronically monitor Supported Products and Supported Systems for the following purposes: (i) remote diagnostics and corrective actions; (ii) to determine system configuration and applicable charges; (iii) to verify compliance with applicable Software license terms and restrictions; (iv) when providing managed Services, to assess Participating Entity needs for additional Products or Services; (v) as otherwise provided in the SAS.

33.1.4 Incident Correction. Some Services options may include correction of Incidents. An "Incident" means a failure of a Supported Product to conform in all material respects to the manufacturer's specifications that were currently applicable when the Supported Product was purchased or licensed.

33.1.5 Help Line Support. Where the selected Services option includes help line support, Contractor will provide it in accordance with the coverage option (service hours, target response intervals, etc.) that Participating Entity has selected.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

33.1.6 End of Support. Periodically, Contractor or a third party manufacturer may declare “end of life,” “end of service,” “end of support,” “manufacture discontinue” or similar designation (“End of Support”) for certain Supported Products. Participating Entity may access Contractor’s user support website (www.support.avaya.com) for End of Support notifications, and to register an e-mail address to receive e-mail notifications of the same, when published by Contractor. For Products subject to End of Support, Contractor will continue to provide the support described in the applicable SAS or Service Description, except for the End of Support exceptions listed therein (“Extended Support”). If the SAS or Service Description does not include Extended Support information, Contractor will make available the description of Extended Support (if available) for the Products concerned at the same time as its End of Support notification. For Products not subject to Extended Support, if Services are discontinued for a Supported Product, the Supported Product will be removed from the order and rates will be adjusted accordingly.

33.1.7 Replacement Hardware. Replacement hardware provided as part of Services may be new, factory reconditioned, refurbished, re-manufactured or functionally equivalent. It will be furnished only on an exchange basis. Returned hardware that has been replaced by Contractor will become Contractor’s property. Title to Contractor-installed replacement hardware provided as part of Services will pass to Participating Entity when installed. Title to all other hardware provided as part of Services will pass to Participating Entity when it arrives at the Supported Site.

33.1.8 Added Products. If Participating Entity acquires additional Products of the same type and manufacturer(s) as the existing Supported Products and locates them with existing Supported Products at a Supported Site, they will be considered “Added Products”, and will be added to the order automatically for the remainder of the term. Added Products purchased from a party other than the manufacturer or an authorized reseller are subject to certification by Contractor at Contractor’s then current Services rates. If Added Products fail certification, Contractor may choose not to add them to the Supported Products.

33.1.9 General Limitations. Unless the SAS provides otherwise, Contractor will provide Software Services only for the unaltered current release of the Software and the prior release. The following items are included in the Services only if the SAS specifically includes them: (i) support of user-defined applications; (ii) support of Supported Products that have been modified by a party other than Contractor (except for installation of standard, self-installed updates provided by the manufacturer); (iii) making corrections to user-defined reports; (iv) data recovery services; (v) services associated with relocation of Supported Products; (vi) correction of Incidents arising from causes external to the Supported Products (such as power failures or surges); and (vii) services for Supported Products that have been misused, used in breach of their license restrictions, improperly installed or configured, or that have had their serial numbers altered, defaced or deleted

33.2 INVOICING AND PAYMENT

Contractor will invoice Participating Entity for Services in advance unless another payment option is specified in the order or as otherwise specified in the SAS or Service Description.

33.3 Participating Entity RESPONSIBILITIES

33.3.1 General. Participating Entity will cooperate with Contractor as reasonably necessary for Contractor’s performance of its obligations, such as: (i) providing Contractor with full, free and safe access to its facilities; (ii) providing telephone numbers, network addresses and passwords necessary for remote access; and (iii) providing interface information for Supported Products and necessary third party consents and licenses to access them. All items will be provided by Participating Entity at Participating Entity’s expense. If Contractor provides an update or other new release of Software as part of the Services, Participating Entity will implement it promptly.

33.3.2 Provision of Supported Products and Systems. Except for Contractor hosted facilities identified in the SAS Participating Entity will provide all Supported Products, Supported Systems and Supported Sites. Participating Entity continuously represents and warrants that: (i) Participating Entity is either the owner of, or is authorized to access and use, each of them; and (ii) Contractor, its suppliers, and subcontractors are authorized to do the same to the extent necessary to provide the Services in a timely manner.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

33.3.3 Moves of Supported Products. Participating Entity will notify Contractor in advance before moving Supported Products. Contractor may charge additional amounts to recover additional costs in providing the Services as a result of moved Supported Products.

33.3.4 Vendor Management. Where Contractor is to instruct or request products or services on Participating Entity's behalf from third party vendors under Participating Entity's supply contracts with the third party vendors ("Vendor Management"), Participating Entity will provide Contractor upon request a letter of agency or similar document, in a form reasonably satisfactory to Contractor, permitting Contractor to perform the Vendor Management. Where the third party vendor's consent is required for Contractor to be able to perform Vendor Management in a timely manner, Participating Entity will obtain the written consent of the vendor and provide Contractor a copy of it upon request.

33.3.5 Third Party Hosting. In the event one or more network address(es) to be monitored by Contractor are associated with systems owned, managed, and/or hosted by a third party service provider ("Host"), Participating Entity will: (i) notify Contractor of the Host prior to commencement of the Services; (ii) obtain the Host's advance written consent for Contractor to perform the Services on the Host's computer systems and provide Contractor with a copy of the consent upon request; and (iii) facilitate necessary communications between Contractor and the Host in connection with the Services.

33.3.6 Access to Personal Data. From time to time, Participating Entity may require Contractor to access a Supported Product or Supported System containing employee, customer or other individual's personal data (collectively, "Personal Data"). Where Participating Entity instructs Contractor to access any Personal Data or to provide Participating Entity or a third party identified by Participating Entity with access, Participating Entity will (i) notify all relevant employees and other individuals of the fact that Contractor will have access to such Personal Data in accordance with Participating Entity's instructions, and (ii) if permitted by law, indemnify Contractor and its officers, directors, employees, subcontractors and Affiliates against, and hold each of them harmless from, any and all liabilities, costs, damages, judgments and expenses (including reasonable attorney's fees and costs) arising out of Contractor accessing or providing access in accordance with Participating Entity's instructions.

33.4 SOFTWARE LICENSE

Where Services include provision of patches, updates or feature upgrades for Supported Products ("New Software"), they will be provided subject to the license grant and restrictions contained in the original agreement under which Participating Entity licensed the original Software from Contractor. Where there is no existing license from Contractor, New Software will be provided subject to the manufacturer's then current license terms and restrictions for the New Software. New Software may include components provided by third party suppliers that are subject to their own end user license agreements. Participating Entity may install and use these components in accordance with the terms and conditions of the "shrinkwrap" or "clickthrough" end user license agreement accompanying them.

33.5 Warranty and limitation of liability

33.5.1 Warranty. Contractor warrants to Participating Entity that Services will be carried out in a professional and workmanlike manner by qualified personnel.

33.5.2 Remedy. If Services are not in conformance with the above warranty and Contractor receives Participating Entity's detailed request to cure a non-conformance within 30 days of its occurrence, Contractor will re-perform those Services. If Contractor fails to achieve such conformance within thirty (30) days of receiving Participating Entity's written notice, Participating Entity may cancel the applicable order with respect to future Services. Upon cancellation, Participating Entity will be entitled to receive a proportionate refund of any prepaid fees applicable to future Services. These remedies will be Participating Entity's sole and exclusive remedies and will be in lieu of any other rights or remedies Participating Entity may have against Contractor with respect to the non-conformance of Services.

33.5.3 Disclaimer. Services provided to enhance network security are not a guaranty against malicious code, deleterious routines, and other techniques and tools employed by computer "hackers" and other third parties to create security exposures. Neither Contractor nor its suppliers make any warranty, express

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

or implied, that all security threats and vulnerabilities will be detected or that the Services will render an end user's network or particular network elements safe from intrusions and other security breaches.

33.6 TERM AND TERMINATION

33.6.1 Term. Unless a different term is mandated in the applicable SAS or Service Description, Contractor will provide Services for an initial term of one year. Unless otherwise specified in the SAS or Service Description, Participating Entity may terminate Services in whole or in part upon 30 days written notice subject to cancellation fees equal to Service fees for 12 months or the remaining term, whichever is less.

33.6.2. Termination Notice. Participating Entity's written notice of termination must be sent by: (i) letter via certified mail to the following address: Avaya Inc., Participating Entity Care Center , 14400 Hertz Quail Spring Pkwy, Oklahoma City, OK 73134 Attn: Maintenance Termination; (ii) email to mycontract@avaya.com; or (iii) fax to 800-444-6371.

33.7 Participating Entity Responsibilities. Participating Entity will cooperate with Avaya as reasonably necessary, including as specified in this Agreement, for Avaya's delivery of Products and performance of Services in a timely manner. Participating Entity will provide Avaya with interface and other information regarding access to third party products in Participating Entity's network and necessary third party consents and licenses to enable Avaya's performance under the Agreement. Participating Entity is responsible for ensuring that its networks and systems are adequately secured against unauthorized intrusion or attack and regularly backing up its data and files in accordance with good data retention and security practices. Participating Entity will reasonably use, safeguard and return to Avaya any items that Avaya loans or makes available to Participating Entity ("Avaya Tools") for the purpose of providing Services under this Agreement, such as, but not limited to, the Secure Intelligent Gateway. Participating Entity will be responsible for the custody and care of the Avaya Tools until returned to Avaya. Avaya Tools shall not be considered Products as that term is defined in these General Terms. If Participating Entity fails to meet its cooperation obligations under this Section or as otherwise provided in the Agreement, Avaya may delay or suspend its delivery of Products or performance of Services relating to Participating Entity's failure.

Proposed New Section:

Please refer to RFP Section 7.2.5. Following is Avaya's requested exceptions to add a new Section **34** to the WSCA-NASPO Master Agreement Terms and Conditions, titled, **Contractor's Implementation and Professional Services Terms**.

34. Contractor's Implementation and Professional Services Terms. These Implementation & Professional Services Terms apply if and to the extent Implementation & Professional Services are acquired under this Agreement.

34.1 SCOPE; order of precedence; CHANGES

34.1.1 Services Provided. Contractor will provide the Services described in this paragraph ("Implementation & Professional Services") as specified in an order and as may be further described in a Statement of Work executed by both parties ("SOW"). Implementation & Professional Services can include installation and configuration of Products, consulting and other services where Contractor creates and delivers customized Software, hardware, documentation, or other work product ("Deliverables") and/or completes other defined objectives ("Defined Objectives") on a milestone basis or on a time and material basis ("T&M Services", as further defined below). T&M Services are Implementation & Professional Services provided on a time and materials basis in exchange for hourly, daily or monthly fees and expense reimbursements calculated on the basis of Contractor service records. Deliverables do not include generally available hardware and Software and are not Products. To the extent an SOW

provides that Contractor will deliver Products, the terms for Supply of Generally Available Products will apply to those Products. Implementation & Professional Services do not include Maintenance Services or Managed Services.

34.1.2 Order of Precedence. Unless otherwise provided for in these Implementation & Professional Services Terms, in the event of conflict among the General Terms, these Implementation Services Terms, a SOW and any ancillary attachments to or documents referenced in an SOW, the order of precedence is: (i) these Implementation & Professional Services Terms; (ii) the General Terms; (iii) any SOW; and (iv) ancillary documents; except that in relation to limitations of liability, licensing provisions, intellectual property rights and intellectual property rights indemnification, the provisions contained in the General Terms will always take priority.

34.1.3 Changes. Changes in Implementation & Professional Services will be made in accordance with Contractor's change process defined in the SOW.

34.2 ACCEPTANCE

34.2.1 T&M Services. T&M Services are deemed accepted upon performance.

34.2.2 SOW without Acceptance Procedures. Where the SOW does not contain specific acceptance criteria and procedures ("Acceptance Procedures"), Implementation & Professional Services are deemed accepted upon the earlier of either: (i) Contractor providing notice of completion to Participating Entity; or (ii) production use of Deliverables or installed Products.

34.2.3 SOW with Acceptance Procedures. Where the SOW contains Acceptance Procedures, the Deliverable or Defined Objective is deemed accepted upon the earlier of either: (i) the end of the acceptance period defined in the Acceptance Procedures, unless Contractor has received from Participating Entity a rejection notice indicating in reasonable detail the material failure of the Deliverable or Defined Objective to conform to the criteria in the Acceptance Procedures ("Rejection Notice"); or (ii) production use (except to the extent production use is included in the Acceptance Procedures). If the Deliverable or Defined Objective fails to conform to the criteria in the Acceptance Procedures and Contractor has received a timely Rejection Notice, then Contractor will re-perform the respective Defined Objective and re-submit the Deliverable or Defined Objective for acceptance as described above. If, after resubmission, Participating Entity provides another Rejection Notice, then Participating Entity's remedies will be either to: (a) terminate the SOW, return all Deliverables and receive a refund of fees paid under the SOW; or (b) accept the Deliverable or Defined Objective subject to the warranties and remedies described in Section 5.

34.3 Transfer of risk, title; license to deliverables

34.3.1 Transfer of Risk and Title. Title to hardware components of Deliverables will pass to Participating Entity upon acceptance. Risk of loss will pass to Participating Entity when the carrier receives the Deliverable for shipment to Participating Entity or when the Deliverable arrives on Participating Entity's premises, whichever occurs earlier.

34.3.2 Participating Entity's License to Deliverables. Subject to Participating Entity's payment of fees for the Services, Contractor grants Participating Entity a non-exclusive, non-transferable, limited, non-sublicenseable license to use Deliverables created by Contractor and delivered to Participating Entity. Software contained in Deliverables will be licensed subject to the Global Software License Terms contained in Schedule A of the Agreement.

34.4 invoicing and payment

34.4.1 Unless otherwise provided in a valid Contractor quotation, proposal or SOW, Contractor will invoice Participating Entity for Products and Services included in a SOW (excluding any Services to be billed monthly or Custom Application Support Services) as follows:

34.4.1.1 Where the total fees exceed $100,000, 50% of the total project value invoiced upon shipment of the Products and the remaining fees invoiced on the In-Service Date;

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

34.4.1.2 Where the total fees are less than $100,000, as of the effective date of the SOW, the total project value invoiced on the In-Service Date.

34.4.2 For Services-only orders: (i) for Implementation & Professional Services other than T&M Services, invoiced on completion of the Services, or (ii) for T&M Services, invoiced monthly in arrears.

34.5 Warranty

34.5.1 Warranty Period. The warranty period for Implementation & Professional Services and Deliverables will be 30 days beginning on the acceptance or deemed acceptance date of the Deliverables or the Defined Objective (the "Warranty Period").

34.5.2 Warranty. During the Warranty Period, Contractor warrants to Participating Entity that (i) Implementation & Professional Services will be carried out in a professional and workmanlike manner by qualified personnel; and (ii) Deliverables will conform in all material respects to the specifications contained in the SOW. However, Contractor does not warrant that Software contained in the Deliverables will perform uninterrupted or error-free.

34.5.3 Remedies.

34.5.3.1 Implementation & Professional Services. To the extent that Contractor has not performed Implementation & Professional Services in accordance with the above warranty ("Non Conformity") and Contractor receives written notice from Participating Entity within the Warranty Period that identifies the Non-Conformity in reasonable detail and requests Contractor cure the Non-Conformity, Contractor will re-perform the applicable Services or if Contractor determines that re-performance is not commercially reasonable, either (i) refund to Participating Entity the fees for the Non-Conforming Implementation & Professional Services; or (ii) in the case of T&M Services, Participating Entity may cancel the affected T&M Services, subject to payment of fees for T&M Services already performed.

34.5.3.2 Deliverables from Implementation & Professional Services. If Contractor receives from Participating Entity within the Warranty Period a written notice describing in reasonable detail how the Deliverables failed to be in conformance with the above warranty, Contractor will, at its option, repair or replace the non-conforming Deliverables, or refund to Participating Entity the applicable fees upon return of the non-conforming Deliverables.

34.5.3.3 Exclusive Remedies. THE REMEDIES SET FORTH IN THIS SECTION 5.3 WILL BE PARTICIPATING ENTITY'S SOLE AND EXCLUSIVE REMEDIES AND WILL BE IN LIEU OF ANY OTHER RIGHTS OR REMEDIES PARTICIPATING ENTITY MAY HAVE AGAINST CONTRACTOR WITH RESPECT TO THE NON-CONFORMANCE OF IMPLEMENTATION & PROFESSIONAL SERVICES AND DELIVERABLES.

34.5.4 Disclaimer. Services provided to enhance network security are not a guaranty against malicious code, deleterious routines, and other techniques and tools employed by computer "hackers" and other third parties to create security exposures. Neither Contractor nor its suppliers make any warranty, express or implied, that all security threats and vulnerabilities will be detected or that the Services will render an end user's network or particular network elements safe from intrusions and other security breaches.

34.6 TERM AND TERMINATION

34.6.1 Term. The term of a SOW will begin on the date specified in the SOW or order if any, or on the date executed by the last party to sign the SOW. The term of the SOW will continue until the work is completed or the SOW is terminated earlier in accordance with this Section.

34.6.2 Termination. Unless otherwise provided in the SOW, either party may terminate Implementation & Professional Services upon 45 days prior written notice, and Participating Entity will pay for Services performed to the date of termination and all non-refundable or non-terminable out-of-pocket expenses Contractor incurred

34.7 Participating Entity Responsibilities. Participating Entity will cooperate with Contractor as reasonably necessary, including as specified in this Agreement, for Contractor's delivery of Products and

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

performance of Services in a timely manner. Participating Entity will provide Contractor with interface and other information regarding access to third party products in Participating Entity's network and necessary third party consents and licenses to enable Contractor's performance under the Agreement. Participating Entity is responsible for ensuring that its networks and systems are adequately secured against unauthorized intrusion or attack and regularly backing up its data and files in accordance with good data retention and security practices. Participating Entity will reasonably use, safeguard and return to Contractor any items that Contractor loans or makes available to Participating Entity ("Contractor Tools") for the purpose of providing Services under this Agreement, such as, but not limited to, the Secure Intelligent Gateway. Participating Entity will be responsible for the custody and care of the Contractor Tools until returned to Contractor. Contractor Tools shall not be considered Products as that term is defined in these General Terms. If Participating Entity fails to meet its cooperation obligations under this Section or as otherwise provided in the Agreement, Contractor may delay or suspend its delivery of Products or performance of Services relating to Participating Entity's failure.

Definitions

Acceptance -means a written notice from a purchasing entity to contractor advising Contractor that the Product has passed its Acceptance Testing. Acceptance of a product for which acceptance testing is not required shall occur following the completion of delivery, installation, if required, and a reasonable time for inspection of the product, unless the Purchasing Entity provides a written notice of rejection to contractor.

Acceptance Testing -means the process for ascertaining that the Product meets the standards set forth in the section titled Standard of Performance and Acceptance, prior to Acceptance by the Purchasing Entity.

Contractor - means the person or entity delivering Products or performing services under the terms and conditions set forth in this Master Agreement.

Intellectual Property – means any and all patents, copyrights, service marks, trademarks, trade secrets, trade names, patentable inventions, or other similar proprietary rights, in tangible or intangible form, and all rights, title, and interest therein.

Lead State - means the State conducting this cooperative solicitation and centrally administering any resulting Master Agreement with the permission of the Signatory States.

Master Agreement – means the underlying agreement executed by and between the Lead State, as WSCA-NASPO contract administrator, acting on behalf of WSCA-NASPO, and the Contractor, as now or hereafter amended.

Order -means any purchase order, sales order, or other document used by a Participating Entity to order the Products.

Participating Addendum -means a bilateral agreement executed by a Contractor and a Participating Entity incorporating this Master Agreement and any other additional Participating Entity specific language or other requirements ,e.g. ordering procedures specific to the Participating Entity, other terms and conditions.

Participating Entity -means a state, or other legal entity, properly authorized by a state to enter into the Master Agreement or Participating Addendum or who is authorized to order under the Master Agreement or Participating Addendum.

Product -Any equipment, software (including embedded software), documentation, or deliverable supplied or created by the Contractor pursuant to this Master Agreement.

WSCA-NASPO -is a cooperative group contracting consortium for state procurement officials, representing departments, institutions, agencies, and political subdivisions (i.e., colleges, school districts, counties, cities, etc.) for all states and the District of Columbia. WSCA¬NASPO

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

is a cooperative purchasing arm of the National Association of State Procurement Officials (NASPO).

Avaya Response:

Understood. Avaya proposes the following new definition for Acceptance Testing: Acceptance Test means successful completion of the acceptance procedures set out pursuant to WSCA-NASPO Master Terms and Conditions Section 34.

Additional Definitions and Alternative Terms for Consideration

Below are additional definitions and alternative terms for consideration by the sourcing teams depending upon the nature of the solicitation and negotiations between the Contractor and Vendor.

Embedded Software -means one or more software applications which permanently reside on a computing device.

Machine Code – means microcode, basic input/output system code, utility programs, device drivers, diagnostics, and another code delivered with a computing device for the purpose of enabling the function of the computing device, as stated in its published specifications.

Avaya Response:

Understood.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

ATTACHMENT A

STATE OF UTAH STANDARD INFORMATION TECHNOLOGY TERMS AND CONDITIONS (FOR WSCA CONTRACTS and DTS RELATED CONTRACTS)

Avaya Response:

It is anticipated that Attachment A will be incorporated into a Participation addendum between State of Utah and Contractor.

1. **AUTHORITY:** Provisions of this contract are pursuant to the authority set forth in 63G-6, Utah Code Annotated, 1953, as amended, Utah State Procurement Rules (Utah Administrative Code Section R33), and related statutes which permit the State to purchase certain specified services, and other approved purchases for the State.

Avaya Response:

Understood.

2. **CONTRACT JURISDICTION, CHOICE OF LAW, AND VENUE:** The provisions of this contract shall be governed by the laws of the State of Utah. The parties will submit to the jurisdiction of the courts of the State of Utah for any dispute arising out of this Contract or the breach thereof. Venue shall be in Salt Lake City, in the Third Judicial District Court for Salt Lake County.

Avaya Response:

Understood.

3. **LAWS AND REGULATIONS:** The Contractor and any and all supplies, services, equipment, and construction furnished under this contract will comply fully with all applicable Federal and State laws and regulations, including applicable licensure and certification requirements.

Avaya Response:

Understood.

4. **RECORDS ADMINISTRATION:** The Contractor shall maintain, or supervise the maintenance of all records necessary to properly account for the payments made to the Contractor for costs authorized by this contract. These records shall be retained by the Contractor for at least four years after the contract terminates, or until all audits initiated within the four years, have been completed, whichever is later. The Contractor agrees to allow State and Federal auditors, and State Agency Staff, access to all the records to this contract, for audit and inspection, and monitoring of services. Such access will be during normal business hours, or by appointment.

Avaya Response:

Understood.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

5. **CERTIFY REGISTRATION AND USE OF EMPLOYMENT "STATUS VERIFICATION SYSTEM":** The Status Verification System, also referred to as "E-verify", only applies to contracts issued through a Request for Proposal process, and to sole sources that are included within a Request for Proposal. It does not apply to Invitation for Bids or to the Multi-Step Process.

1. Status Verification System

(1) Each offeror and each person signing on behalf of any offeror certifies as to its own entity, under penalty of perjury, that the named Contractor has registered and is participating in the Status Verification System to verify the work eligibility status of the contractor's new employees that are employed in the State of Utah in accordance with applicable immigration laws including UCA Section 63G-12-302.

(2) The Contractor shall require that the following provision be placed in each subcontract at every tier: "The subcontractor shall certify to the main (prime or general) contractor by affidavit that the subcontractor has verified through the Status Verification System the employment status of each new employee of the respective subcontractor, all in accordance with applicable immigration laws including UCA Section 63G-12-302 and to comply with all applicable employee status verification laws. Such affidavit must be provided prior to the notice to proceed for the subcontractor to perform the work."

(3) The State will not consider a proposal for award, nor will it make any award where there has not been compliance with this Section.

(4) Manually or electronically signing the Proposal is deemed the Contractor's certification of compliance with all provisions of this employment status verification certification required by all applicable status verification laws including UCA Section 63G-12-302.

2. Indemnity Clause for Status Verification System

(1) Contractor (includes, but is not limited to any Contractor, Design Professional, Designer or Consultant) shall protect, indemnify and hold harmless, the State and its officers, employees, agents, representatives and anyone that the State may be liable for, against any claim, damages or liability arising out of or resulting from violations of the above Status Verification System Section whether violated by employees, agents, or contractors of the following: (a) Contractor; (b) Subcontractor at any tier; and/or (c) any entity or person for whom the Contractor or Subcontractor may be liable.

(2) Notwithstanding Section 1. above, Design Professionals or Designers under direct contract with the State shall only be required to indemnify the State for a liability claim that arises out of the design professional's services, unless the liability claim arises from the Design Professional's negligent act, wrongful act, error or omission, or other liability imposed by law except that the design professional shall be required to indemnify the State in regard to subcontractors or subconsultants at any tier that are under the direct or indirect control or responsibility of the Design Professional, and includes all independent contractors, agents, employees or anyone else for whom the Design Professional may be liable at any tier.

Avaya Response:

Understood.

6. CONFLICT OF INTEREST: Contractor represents that none of its officers or employees are officers or employees of the State of Utah, unless disclosure has been made in accordance with 67-16-8, Utah Code Annotated, 1953, as amended.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Response:

Understood.

7. CONFLICT OF INTEREST WITH STATE EMPLOYEES: In addition to the provisions of State of Utah Terms and Conditions # 6, Conflict of Interest, the Contractor certifies that no person in the State's employment, directly or through subcontract, will receive any private financial interest, direct or indirect, in the contract. The Contractor will not hire or subcontract with any person having such conflicting interest.

Avaya Response:

Understood.

8. CONTRACTOR ACCESS TO SECURE STATE FACILITIES / CRIMINAL CONVICTION INFORMATION / FORMER FELONS: The Contractor shall provide (at its own expense) the State with sufficient personal information about its agents or employees, and the agents and employees of its subcontractors (if any) who will enter upon secure premises controlled, held, leased, or occupied by the State during the course of performing this contract so as to facilitate a criminal record check, at State expense. "Sufficient personal information" about its agents or employees, and the agents and employees of its subcontractors (if any) means for the Contractor to provide to the State Project Manager, in advance of any on-site work, a list of the full names of the designated employees, including their social security number, driver license number and the state of issuance, and their birth date. Thereafter, on their first site visit, each contractor employee expected to work on-site shall be fingerprinted by the State, and the State is authorized to conduct a federal criminal background check based upon those fingerprints and personal information provided. Contractor, in executing any duty or exercising any right under this contract, shall not cause or permit any of its agents or employees, and the agents and employees of its subcontractors (if any) who have been convicted of a felony and misdemeanors other than minor misdemeanors to enter upon any premises controlled, held, leased, or occupied by the State. A felony and misdemeanor are defined by the jurisdiction of the State of Utah, regardless of where the conviction occurred.

Avaya Response:

Understood.

9. DRUG-FREE WORKPLACE: The Contractor agrees to abide by the Department of Technology Services (DTS) drug-free workplace policies while on State of Utah premises. DTS will provide the Contractor with a copy of these written "drug-free workplace policies" upon request.

Avaya Response:

Understood.

10. CODE OF CONDUCT: When Contractor employees are working on-site, the Contractor agrees to follow and enforce DTS Policy 2000-001 Code of Conduct. If Contractor is working at facilities controlled by other State agencies, Contractor agrees to follow and enforce the Code of Conduct Policy of these other State agencies when Contractor is providing services at these facilities under provisions of this contract. The Contractor will assure that each employee or volunteer under Contractor's supervision receives a copy of such Code of Conduct, and a signed statement to this effect must be in each Contractor or Subcontractor employee's/volunteer's file

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

and is subject to inspection and review by the State's monitors. Upon request, DTS agrees to provide Contractor with a copy of any applicable codes of conduct. If a Contractor or Subcontractor is working at any State agency which has a Code of Conduct applicable to this Contract, the DTS Project Manager will provide the Contractor with a copy in advance of the Contractor's on-site contract services performance.

Avaya Response:

Understood.

11. INDEMNITY CLAUSE: The Contractor agrees to indemnify, save harmless, and release the State of Utah, and all its officers, agents, volunteers, and employees from and against any and all loss, damages, injury, liability, suits, and proceedings arising out of the performance of this contract which are caused in whole or in part by the acts or negligence of the Contractor's officers, agents, volunteers, or employees, but not for claims arising from the State's sole negligence. The parties agree that if there are any Limitations of the Contractor's Liability, including a limitation of liability for anyone for whom the Contractor is responsible, such Limitations of Liability will not apply to injuries to persons, including death, or to damages to property.

Avaya Response:

Understood. Reference RFP Section 7.2.7 for Avaya's request for exceptions, and Avaya respectfully requests that Avaya's response to the WSCA-NASPO Master Agreement Terms and Conditions, Section 15.2 (General Indemnity) supersedes this Section 11 (Indemnity Clause) of the State of Utah Standard Information Technology Terms and Conditions.

12. EMPLOYMENT PRACTICES CLAUSE: The Contractor agrees to abide by the provisions of Title VI and VII of the Civil Rights Act of 1964 (42USC 2000e) which prohibits discrimination against any employee or applicant for employment or any applicant or recipient of services, on the basis of race, religion, color, or national origin; and further agrees to abide by Executive Order No. 11246, as amended, which prohibits discrimination on the basis of sex; 45 CFR 90 which prohibits discrimination on the basis of age; and Section 504 of the Rehabilitation Act of 1973, or the Americans with Disabilities Act of 1990 which prohibits discrimination on the basis of disabilities. Also, the Contractor agrees to abide by Utah's Executive Order, dated March 17, 1993, which prohibits sexual harassment in the work place.

Avaya Response:

Understood.

13. TERMINATION: Unless otherwise stated in the Special Terms and Conditions, this contract may be terminated, with cause by either party, in advance of the specified termination date, upon written notice being given by the other party. The party in violation will be given ten (10) working days after notification to correct and cease the violations, after which the contract may be terminated for cause. This contract may be terminated without cause, in advance of the specified expiration date, by either party, upon sixty (60) days prior written notice being given the other party. On termination of this contract, all accounts and payments will be processed according to the financial arrangements set forth herein for approved services rendered to date of termination.

In the event of such termination, and professional services apply to the contract; the Contractor shall be compensated for services properly performed under this Contract up to the effective date of the notice of termination. The Contractor agrees that in the event of such termination for cause

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

or without cause, Contractor's sole remedy and monetary recovery from the State is limited to full payment for all work properly performed as authorized under this Contract up to the date of termination as well as any reasonable monies owed as a result of the Contractor having to terminate contracts necessarily and appropriately entered into by the Contractor pursuant to this Contract. Contractor further acknowledges that in the event of such termination, all work product, which includes but is not limited to all manuals, forms, contracts, schedules, reports, and any and all documents produced by Contractor under this Contract up to the date of termination are the property of the State and shall be promptly delivered to the State.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exceptions, and Avaya respectfully requests that Avaya's response to the WSCA-NASPO Master Agreement Terms and Conditions, Section 7.2 (Default and Remedies for Participating Addendums) replaces the first paragraph of State of Utah Standard Information Technology Terms and Conditions Section 13 (Termination).

14. SUSPENSION OF WORK: Should circumstances arise which would cause the State to suspend the work, but not terminate the contract, this will be done by formal notice. The work may be reinstated upon advance formal notice from the State.

Avaya Response:

Understood.

15. NONAPPROPRIATION OF FUNDS: The Contractor acknowledges that the State cannot contract for the payment of funds not yet appropriated by the Utah State Legislature. If funding to the State is reduced due to an order by the Legislature or the Governor, or is required by State law, or if federal funding (when applicable) is not provided, the State may terminate this contract or proportionately reduce the services and purchase obligations and the amount due from the State upon 30 days written notice. In the case that funds are not appropriated or are reduced, the State will reimburse Contractor for products delivered or services performed through the date of cancellation or reduction, and the State will not be liable for any future commitments, penalties, or liquidated damages.

Avaya Response:

Understood.

16. SALES TAX EXEMPTION: The State of Utah's sales and use tax exemption number is 11736850-010-STC, located at http://purchasing.utah.gov/contract/documents/salestaxexemptionformsigned.pdf. The tangible personal property or services being purchased are being paid from State funds and used in the exercise of that entity's essential functions. If the items being purchased are construction materials, they will be converted into real property by employees of this government entity, unless otherwise stated in the contract.

Avaya Response:

Understood.

17. SECURE PROTECTION AND HANDLING OF DATA:

1. Network Security: Contractor agrees at all times to maintain network security that -at a minimum -includes: network firewall provisioning, intrusion detection, and regular third party

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

penetration testing. Likewise Contractor agrees to maintain network security that conforms to one of the following:

a. Those standards the State of Utah applies to its own network, found at http://www.dts.utah.gov;

b. Current standards set forth and maintained by the National Institute of Standards and Technology, includes those at: http://web.nvd.nist.gov/view/ncp/repository/; or

c. Any generally recognized comparable standard that Contractor then applies to its own network and approved by DTS in writing.

2. Data security: Contractor agrees to protect and maintain the security of the State of Utah data with protection that is at least as good as or better than that maintained by the State of Utah. These security measures included but are not limited to maintaining secure environments that are patched and up to date with all appropriate security updates as designated, (ex. Microsoft Notification).

3. Data Transmission: Contractor agrees that any and all transmission or exchange of system application data with the State of Utah and/or any other parties expressly designated by the State of Utah, shall take place via secure means, (ex. HTTPS or FTPS).

4. Data Storage: Contractor agrees that any and all State of Utah data will be stored, processed, and maintained solely on designated target servers approved of by DTS and that no State of Utah data at any time will be processed on or transferred to any portable or laptop computing device or any portable storage medium, unless such medium is part of the Contractor's designated backup and recovery process.

5. Data Encryption: Contractor agrees to store all State of Utah backup data as part of its designated backup and recovery process in encrypted form, using no less than 128 bit key.

6. Password Protection. Contractor agrees that any portable or laptop computer that has access to a State of Utah network, or stores any non-public State of Utah data is equipped with strong and secure password protection.

7. Data Re-Use: Contractor agrees that any and all data exchanged shall be used expressly and solely for the purpose enumerated in this Contract. Contractor further agrees that no State of Utah data of any kind shall be transmitted, exchanged or otherwise passed to other Contractors or interested parties except on a case-by-case basis as specifically agreed to in writing by DTS.

8. Data Destruction: The Contractor agrees that upon termination of this Agreement it shall erase, destroy, and render unreadable all State of Utah data from all non-state computer systems and backups, and certify in writing that these actions have been completed within 30 days of the termination of this Agreement or within 7 days of the request of DTS, whichever shall come first.

Avaya Response:

Understood. Avaya submits a request that application of Section 17 (Secure Protection and Handling of Data) would be evaluated on an opportunity by opportunity basis.

18. NOTIFICATION AND DATA BREACHES: Contractor agrees to comply with all applicable laws that require the notification of individuals in the event of unauthorized release of personally-identifiable information or other events requiring notification in accordance with DTS Policy 5000-1250-PR1 Computer Incident Reporting Procedure (copy available upon request). In the event of a data breach of any Contractor's security obligations or other event requiring notification under applicable law (Utah Code Annotated § 13-44-101 thru 301 et al), Contractor agrees at its own expense to assume responsibility for informing all such individuals in accordance with applicable laws and to indemnify, hold harmless and defend the State of Utah against any claims, damages, or other harm related to such Notification Event.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Response:

Understood. Avaya submits a request that Section 18 (Notification and Data Breaches) be evaluated on an opportunity by opportunity basis.

19. CHANGE MANAGEMENT: Contractor agrees to comply with DTS Change Management Policy 4000-0004. This DTS policy requires that any work performed by the Contractor that has the potential to cause any form of outage, or modify the State's infrastructure architecture must first be reviewed by the DTS Change Management Committee, and coordinated accordingly. The DTS Project Manager will inform the Contractor if this change control requirement is applicable. Following this notification, any failure by the Contractor that causes outages or data security breaches caused by the Contractor as a direct result of failure to comply, will result in the Contractor's liability for the damages.

For reference purposes, the latest version of DTS Change Management Policy 4000-0004 is detailed at http://dts.utah.gov/policies/documents/4000-0004changemanagementpolicy.pdf.

Avaya Response:

Understood. Avaya submits a request that application of Section 19 (Change Management) be evaluated on an opportunity by opportunity basis.

20. PUBLIC INFORMATION: Contractor agrees that the contract, related Sales Orders, and Invoices will be public documents, and may be available for distribution. Contractor gives the State express permission to make copies of the contract, related Sales Orders, and Invoices in accordance with the State of Utah Government Records Access and Management Act (GRAMA). Except for sections identified in writing and expressly approved by the State Division of Purchasing, Contractor also agrees that the Contractor's response to the solicitation will be a public document, and copies may be given to the public under GRAMA laws. The permission to make copies as noted will take precedence over any statements of confidentiality, proprietary information, copyright information, or similar notation.

Avaya Response:

Understood.

21. CREDITING STATE IN ADVERTISING / PUBLICITY: Any publicity given to the project or services provided herein shall identify the State of Utah's managing agency as the sponsoring agency and shall not be released without prior written approval by that State agency's Project Manager.

Avaya Response:

Understood.

22. STATE AGENCY WEB SITE BRANDING: The Contractor agrees to use the DTS logo, or a newer version if replaced in the future, on websites produced under terms of this contract. Contractor further agrees to allow a State agency to also utilize their own web site branding and logo, if requested by that State agency.

Avaya Response:

Understood.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

23. ORDERING AND INVOICING: All orders will be shipped promptly in accordance with the delivery schedule. The Contractor will promptly submit invoices (within 30 days of shipment or delivery of services) to the State. The State contract number and/or the agency purchase order number shall be listed on all invoices, freight tickets, and correspondence relating to the contract order. The prices paid by the State will be those prices listed in the contract. The State has the right to adjust or return any invoice reflecting incorrect pricing.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exceptions, and Avaya respectfully requests that Section 23 (Ordering and Invoicing) above, be replaced with the following:

23. ORDERING AND INVOICING: All orders will be shipped promptly in accordance with the mutually agreed upon delivery schedule. The Contractor will promptly submit invoices (usually within 30 days of shipment or delivery of services) to the State. Contractor or each Fulfillment Partner shall utilize its standard method for generating acknowledgments, shipping labels, packing slips, invoices, and correspondence The prices paid by the State will be those prices listed in the contract. The State has the right to dispute any invoice reflecting incorrect pricing

24. PROMPT PAYMENT DISCOUNT: Offeror may quote a prompt payment discount based upon early payment; however, discounts offered for less than 30 days will not be considered in making the award. Contractor shall list Payment Discount Terms on invoices. The prompt payment discount will apply to payments made with purchasing cards and checks. The date from which discount time is calculated will be the date a correct invoice is received or receipt of shipment, whichever is later; except that if testing is performed, the date will be the date of acceptance of the merchandise.

Avaya Response:

Understood.

25. PAYMENT:

1. Payments are normally made within 30 days following the date the order is delivered or the date a correct invoice is received, whichever is later. After 60 days from the date a correct invoice is received by the appropriate State official, the Contractor may assess interest on overdue, undisputed account charges up to a maximum of the interest rate paid by the IRS on taxpayer refund claims, plus two percent, computed similarly as the requirements of Utah Code Annotated Section 15-6-3. The IRS interest rate is adjusted quarterly, and is applied on a per annum basis, on the invoice amount that is overdue.

2. The contract total may be changed only by written amendment executed by authorized personnel of the parties. Unless otherwise stated in the Contract, all payments to the Contractor will be remitted by mail, electronic funds transfer, or the State of Utah's purchasing card (major credit card). The State of Utah will not allow the Contractor to charge end users electronic payment fees of any kind.

3. The acceptance by the Contractor of final payment without a written protest filed with the State within ten (10) working days of receipt of final payment shall release the State from all claims and all liability to the Contractor for fees and costs of the performance of the services pursuant to this Contract.

4. Overpayment: The Contractor agrees that if during or subsequent to the contract performance, a CPA audit, or a State agency audit determines that payments were incorrectly reported or paid the State may adjust the payments. The Contractor shall, upon written request,

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

immediately refund to DTS any such overpayments. The Contractor further agrees that the State shall have the right to withhold any or all-subsequent payments under this or other contracts that the Contractor may have with the State until recoupment of overpayment is made.

5. Payment withholding: the Contractor agrees that the adequate reporting, record keeping, and compliance requirements specified in this contract are a material element of performance and that if the Contractor's record keeping practices, compliance, and/or reporting to DTS are not conducted in a timely and satisfactory manner, DTS may withhold part or all payments under this or any other contract until such deficiencies have been remedied. This includes, but is not limited to, Contractors failure to provide timely invoicing, and/or other requirements described elsewhere within this contract. In the event of the payment(s) being withheld, DTS agrees to provide ten (10) day advance Notice to the Contractor of the deficiencies that must be corrected in order to bring about the release of withheld payment. Contractor shall have ten (10) days thereafter to correct the cited reporting or record keeping practice deficiencies or the contract may be terminated.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exceptions, and Avaya respectfully requests that Section 25 (Payment), Subsection.1, be modified to replace the first sentence with the following:

1. Payments are due within 30 days from the date of Contractor's undisputed invoice. After 60 days from the date of a correct invoice, the Contractor may assess interest on overdue, undisputed account charges up to a maximum of the interest rate paid by the IRS on taxpayer refund claims, plus two percent, computed similarly as the requirements of Utah Code Annotated Section 15-6-3. The IRS interest rate is adjusted quarterly, and is applied on a per annum basis, on the invoice amount that is overdue.

In addition, Avaya respectfully requests that Section 25 (Payment), Subsection.5 (Payment withholding) be deleted and replaced with the following.

5 Payment withholding: While disputed amounts may be subtracted from amounts due, disputes will not be a basis for withholding payment of any undisputed amounts due under the Agreement or offsetting other amounts due whether or not the disputed item is on the same order or invoice, nor will any amount be retained in anticipation of a dispute for which notice has not been received:

26. COPYRIGHT: The contractor agrees that any and all Deliverables prepared for the State of Utah as required by this contract, to the extent to which it is eligible under copyright law in any country, shall be deemed a work made for hire, such that all rights, title and interest in the work and Deliverables shall be exclusively owned by the State of Utah. State of Utah reserves a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, or otherwise use and to authorize others to use for Federal or State Government purposes, such software, modifications and documentation. To the extent any Deliverable is deemed not to be, for any reason whatsoever, work made for hire, Contractor agrees to assign and hereby assigns all right title and interest, including but not limited to copyright patent, trademark and trade secret, to such Deliverables, and all extensions and renewals thereof, to the State of Utah. Contractor further agrees to provide all assistance reasonably requested by the State of Utah in the establishment, preservation, and enforcement of its rights in such Deliverables, without any additional compensation to Contractor. Contractor agrees to and hereby, to the extent permissible, waives all legal and equitable rights relating to the Deliverables, including without limitation any and all rights of identification of authorship and any and all rights of approval, restriction or limitation on use or subsequent modifications.

Avaya Response:

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Understood. Avaya Respectfully requests the deletion of Section 26 (Copyright). In the type of engagement contemplated by this contract, Avaya does not perform on a work-for-hire basis. Reference RFP Section 7.2.6 for Avaya's request for exceptions, and Avaya respectfully requests that Avaya's proposed response to the WSCA-NASPO Master Agreement Terms and Conditions, see Section 17.2 (Intellectual Property Rights) supersedes this Section 26 (Copyright) of the State of Utah Standard Information Technology Terms and Conditions.

27. OWNERSHIP, PROTECTION AND USE OF RECORDS: Except for confidential medical records held by direct care providers, the State shall own exclusive title to all information gathered, reports developed, and conclusions reached in performance of this Contract. The Contractor may not use, except in meeting its obligations under this contract, information gathered, reports developed, or conclusions reached in performance of this Contract without the express written consent of the State. The improper use or disclosure of any information concerning a State of Utah client, or a State of Utah employee for any purpose not directly connected with the administration of the State, or the Contractor's responsibilities with respect to services purchased under this agreement, is prohibited except on written consent of the state agency employee, state agency client, their attorney, or their responsible parent or guardian. The Contractor will be required to sign a Confidential Information Certification form in situations where they will be given access to confidential computerized records. The Contractor agrees to maintain the confidentiality of records it holds as agent for the State as required by Government Records Access and Management Act ("GRAMA"), or other applicable federal or state law. The State of Utah shall own and retain unlimited rights to use, disclose, or duplicate all information and data (copyrighted or otherwise) developed, derived, documented, stored, or furnished by the Contractor under the Contract. The Contractor, and any subcontractors under its control, expressly agrees not to use confidential client, or confidential federal, state, or local government data, without prior written permission from the State of Utah Project Manager and appropriate officials of the State Agency.

Avaya Response:

Understood. Reference RFP Section 7.2.6 for Avaya's request for exceptions, and Avaya respectfully requests that Avaya's proposed response to the WSCA-NASPO Master Agreement Terms and Conditions Section 17.2 (Intellectual Property Rights) supersedes this Section 27 (Ownership, Protection and Use of Records) of the State of Utah Standard Information Technology Terms and Conditions.

28. OWNERSHIP, PROTECTION, AND USE OF CONFIDENTIAL FEDERAL, STATE, OR LOCAL GOVERNMENT INTERNAL BUSINESS PROCESSES AND PROCEDURES: The improper use or disclosure by any party of protected internal Federal or State business processes, polices, procedures, or practices is prohibited. Confidential federal or state business processes, policies, procedures, or practices shall not be divulged by the Contractor, Contractor's employees, or their Subcontractors, unless prior written consent has been obtained in advance from the State of Utah Project Manager.

Avaya Response:

Understood. Reference RFP Section 7.2.6 for Avaya's request for exceptions, and Avaya respectfully requests that Avaya's proposed response to the WSCA-NASPO Master Agreement Terms and Conditions, see Section 17.2 (Intellectual Property Rights) supersedes this Section 28 (Ownership, Protection, and use of Confidential Federal State, or Local Government Internal Business Processes and Procedures) of the State of Utah Standard Information Technology Terms and Conditions.

29. OWNERSHIP, PROTECTION, AND RETURN OF DOCUMENTS AND DATA UPON CONTRACT TERMINATION OR COMPLETION: All documents and data pertaining to work

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

required by this contract will be the property of the State and must be delivered to the State within 30 working days after termination or completion of the contract, regardless of the reason for contract termination, and without restriction or limitation to their future use. Any State data that may be returned under provisions of this clause must either be in the format as originally provided, or in a format that is readily usable by the State or that can be formatted in a way that it can be used. Costs for all of these described items will be considered as included in the basic contract compensation of the work described used by the State.

Avaya Response:

Understood. Reference RFP Section 7.2.6 for Avaya's request for exceptions, and Avaya respectfully requests that Avaya's proposed response to the WSCA-NASPO Master Agreement Terms and Conditions, see Section 17.2 (Intellectual Property Rights) supersedes this Section 29 (Ownership, Protection, and return of Documents and Data Upon Contract Termination or Completion) of the State of Utah Standard Information Technology Terms and Conditions.

30. CONFIDENTIALITY: Contractor, and anyone for whom the Contractor may be liable, must maintain the confidentiality of any non-public personal information. Personal information includes, but is not limited to, names, social security numbers, birth dates, address, credit card numbers and financial account numbers. The State reserves the right to identify additional reasonable types or categories of information that must be kept confidential by the Contractor and anyone for whom the Contractor may be liable. This duty of confidentiality shall be ongoing and survive the term of this contract.

Avaya Response:

Understood. However, Avaya proposes that this section 30 (Confidentiality) will not apply in general, but will be evaluated on an opportunity by opportunity basis.

31. TERMINATION UPON DEFAULT: In the event this contract is terminated as a result of a default by the Contractor, the State may procure or otherwise obtain, upon such terms and conditions as the State deems appropriate, services similar to those terminated, and Contractor shall be liable to the State for any and all damages arising there from, including, but not limited to, attorneys' fees and excess costs incurred by the State in obtaining similar services.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exceptions, and Avaya respectfully requests that Avaya's proposed response to the WSCA-NASPO Master Agreement Terms and Conditions, see Section 7.1 (Defaults and Remedies) supersedes this Section 31 (Termination Upon Default) of the State of Utah Standard Information Technology Terms and Conditions

32. PROCUREMENT ETHICS: The Contractor understands that a person who is interested in any way in the sale of any supplies, services, construction, or insurance to the State of Utah is violating the law if the person gives or offers to give any compensation, gratuity, contribution, loan or reward, or any promise thereof to any person acting as a procurement officer on behalf of the State, or who in any official capacity participates in the procurement of such supplies, services, construction, or insurance, whether it is given for their own use or for the use or benefit of any other person or organization (63G-6-1002, Utah Code Annotated, 1953, as amended).

Avaya Response:

Understood.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

33. WORKERS' COMPENSATION: The Contractor shall furnish proof to the State, upon request and maintain during the life of this contract, workers' compensation insurance for all its employees as well as any subcontractor employees related to this contract.

Avaya Response:

Understood.

34. LIABILITY INSURANCE: The Contractor agrees to provide and to maintain during the performance of the contract, at its sole expense, a policy of liability insurance. The limits of the policy shall be no less than $1,000,000.00 for each occurrence and $3,000,000.00 aggregate. It shall be the responsibility of the Contractor to require any of their Subcontractor(s) to secure the same insurance coverage as prescribed herein for the Contractor.

Avaya Response:

Understood. See also Avaya's response to Section 15 of WSCA-NASPO Master Agreement Terms and Conditions

35. ENTIRE AGREEMENT: This Agreement, including all Attachments, and documents incorporated hereunder, and the related State Solicitation constitutes the entire agreement between the parties with respect to the subject matter, and supersedes any and all other prior and contemporaneous agreements and understandings between the parties, whether oral or written. The terms of this Agreement shall supersede any additional or conflicting terms or provisions that may be set forth or printed on the Contractor's work plans, cost estimate forms, receiving tickets, invoices, or any other related standard forms or documents of the Contractor that may subsequently be used to implement, record, or invoice services hereunder from time to time, even if such standard forms or documents have been signed or initialed by a representative of the State. The parties agree that the terms of this Agreement shall prevail in any dispute between the terms of this Agreement and the terms printed on any such standard forms or documents, and such standard forms or documents shall not be considered written amendments of this Agreement.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exceptions, and Avaya respectfully requests that Avaya's proposed response to the WSCA-NASPO Master Agreement Terms and Conditions, see Section 1 (Order of Precedence) supersedes this Section 35 (Entire Agreement) of the State of Utah Standard Information Technology Terms and Conditions

36. SURVIVORSHIP: This paragraph defines the specific contractual provisions that will remain in effect after the completion of or termination of this contract, for whatever reason: (a) State of Utah Standard IT Terms and Conditions # 2, Contract Jurisdiction, Choice of Law, and Venue; (b) State of Utah Standard IT Terms and Conditions # 17, Secure Protection and Handling of Data; (c) State of Utah Standard IT Terms and Conditions # 18, Notification and Data Breaches; (d) State of Utah Standard IT Terms and Conditions # 26, Copyright; (e) State of Utah Standard IT Terms and Conditions #27, Ownership, Protection, and Use of Records, including Residuals of such records; and (f) State of Utah Standard IT Terms and Conditions # 28, Ownership, Protection, and Use of Confidential Federal, State, or Local Government Internal Business Processes, including Residuals of such confidential business processes; (g) State of Utah Standard IT Terms and Conditions # 29, Ownership, Protection, and Return of Documents and Data Upon Contract Termination or Completion; and (h) State of Utah Standard IT Terms and Conditions # 30, Confidentiality.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exceptions, and Avaya respectfully submits that the above section 36 is subject to Avaya's requested changes herein. Also, Avaya submits for inclusion in above, Sections of the WSCA-NASPO Master Agreement Terms and Conditions, including but not limited to, Section 5 (Confidentiality, Non-Disclosure and Injunctive Relief), Section 16 (Laws and Regulations), and Section 17 (License of Pre-Existing Intellectual Property.

37. WAIVER: The waiver by either party of any provision, term, covenant or condition of this Contract shall not be deemed to be a waiver of any other provision, term, covenant or condition of this Contract nor any subsequent breach of the same or any other provision, term, covenant or condition of this Contract. If professional services are applicable to this solicitation/contract, the following terms and conditions apply:

Avaya Response:

Understood.

38. TIME: The Contractor shall complete the scope of services work in a manner to achieve any milestones identified in the procurement documents related to this Contract and the attachments to this Contract. The full scope of services work shall be completed by any applicable deadline stated in the solicitation.

Avaya Response:

Understood.

39. TIME IS OF THE ESSENCE: For all work and services under this Contract, time is of the essence and Contractor shall be liable for all damages to the State of Utah and anyone for whom the State of Utah may be liable, as a result of the failure to timely complete the scope of work required under this Contract.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exceptions, and Avaya respectfully requests that Section 39 (Time is of the Essence), above, be deleted and replaced with the following:

39. TIME IS OF THE ESSENCE: For all work and services under this Contract, time is of the essence.

40. CHANGES IN SCOPE: Any changes in the scope of the services to be performed under this Contract shall be in the form of a written amendment to this Contract, mutually agreed to and signed by duly authorized representatives of both parties, specifying any such changes, fee adjustments, any adjustment in time of performance, or any other significant factors arising from the changes in the scope of services.

Avaya Response:

Understood.

41. PERFORMANCE EVALUATION: The State of Utah may conduct a performance evaluation of the Contractor's services, including specific personnel of the Contractor. References in the Contract to Contractor shall include Contractor, Contractor's subcontractors, or

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

subconsultants at any tier, if any. Results of any evaluation will be made available to the Contractor.

Avaya Response:

Understood.

42. WAIVERS: No waiver by the State or Contractor of any default shall constitute a waiver of the same default at a later time or of a different default.

Avaya Response:

Understood.

43. INSURANCE:

1. To protect against liability, loss and/or expense in connection with the performance of services described under this Contract, the Contractor shall obtain and maintain in force during the entire period of this Contract without interruption, at its own expense, insurance as listed below from insurance companies authorized to do business in the State of Utah and with an A.M. Best rating as approved by the State of Utah Division of Risk Management.

2. The following are minimum coverages that may be supplemented by additional requirements contained in the solicitation for this Contract or provided in an Attachment to this Contract; if no insurance limits are identified in the solicitation, insurance minimums will default to Section 44.

Liability Insurance Requirements:

(1) Worker's Compensation Insurance and Employers' Liability Insurance. Worker's compensation insurance shall cover full liability under the worker's compensation laws of the jurisdiction in which the service is performed at the statutory limits required by said jurisdiction.

(2) Professional liability insurance in the amount as described in the solicitation for this Contract, if applicable.

(3) Any other insurance described in the solicitation for this Contract, if applicable.

3. Any type of insurance or any increase of limits of liability not described in this Contract which the Contractor requires for its own protection or on account of any statute, rule, or regulation shall be its own responsibility, and shall be provided at Contractor's own expense.

4. The carrying of insurance required by this Contract shall not be interpreted as relieving the Contractor of any other responsibility or liability under this Contract or any applicable law, statute, rule, regulation, or order.

Avaya Response:

Understood. Avaya submits that the limits set out in RFP 3.1.3, as it pertains to the State of Utah insurance requirements, shall apply.

44. STANDARD OF CARE: The services of Contractor and its subcontractors and subconsultants at any tier, if any, shall be performed in accordance with the standard of care exercised by licensed members of their respective professions having substantial experience providing similar services which similarities include the type, magnitude and complexity of the services that are the subject of this Contract. The Contractor shall be liable to the State of Utah

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

for claims, liabilities, additional burdens, penalties, damages or third party claims (i.e. another Contractor's claim against the State of Utah), to the extent caused by wrongful acts, errors or omissions that do not meet this standard of care.

Avaya Response:

Understood. Reference RFP Section 7.2.8 for Avaya's request for exceptions, and Avaya respectfully requests that Avaya's proposed response to the WSCA-NASPO Master Agreement Terms and Conditions, see Section 34 (Contractor's Implementation and Professional Services Terms), Subsection 34.5 (Warrant) supersedes this Section 44 (Standard of Care) of the State of Utah Standard Information Technology Terms and Conditions

45. STATE REVIEWS, LIMITATIONS: The right of the State to perform plan checks, plan reviews, other reviews and/or comment upon the services of the Contractor, as well as any approval by the State, shall not be construed as relieving the Contractor from its professional and legal responsibility for services required under this Contract. No review by the State or any entity/user, approval or acceptance, or payment for any of the services required under this Contract shall be construed to operate as a waiver by the State of any right under this Contract or of any cause of action arising out of the performance or nonperformance of this Contract, and the Contractor shall be and remain liable to the State in accordance with applicable law for all damages to the State caused by the wrongful acts, errors and/or omissions of the Contractor or its subcontractors or subconsultants at any tier, if any.

Avaya Response:

Understood. Avaya submits its request that in negotiations we want to explore making this provision mutual.

©2013 Avaya Inc.
- Avaya Proprietary and Confidential Information -

Table of Contents

	Product Data Sheets
Attachment 01	Avaya Identity Engines CASE Wizard
Attachment 01	Avaya Identity Engines Ignition Access Portal
Attachment 02	Avaya Identity Engines Ignition Guest Manager
Attachment 04	Avaya Identity Engines Ignition Server
Attachment 05	Avaya Networking Momentum
Attachment 06	Avaya Virtual Enterprise Network Architecture Distributed Top of Rack
Attachment 07	Avaya Virtual Enterprise Network Architecture Distribution of Globally Routable IPv6 over Fabric Connect
Attachment 08	Avaya Virtual Enterprise Network Architecture Fabric Connect
Attachment 09	Avaya Virtual Enterprise Network Architecture Network Virtualization using Shortest Path Bridging and IP-Shortest Path Bridging
Attachment 10	Avaya Virtual Enterprise Network Architecture Video Surveillance - IP Multicast over Avaya Fabric Connect
Attachment 11	Avaya-on-Avaya Converged Value
Attachment 12	Configuration and Orchestration Manager Fact sheet
Attachment 13	Ethernet Routing Switch 3500 Series fact sheet
Attachment 14	Ethernet Routing Switch 4800 Series fact sheet
Attachment 15	Ethernet Routing Switch 5600 Series fact sheet
Attachment 16	Ethernet Routing Switch 8800 Series fact sheet
Attachment 17	IP Flow Manager Fact sheet
Attachment 18	Lifetime Warranty for Stackable Ethernet Switches for Campus, Data Center and SME deployments
Attachment 19	Packet Pushers - Customer's share the benefits of deploying an Avaya fabric - podcast transcript

©2013 Avaya Inc.

	Product Data Sheets
Attachment 20	Secure Router 2330 Series fact sheet
Attachment 21	Secure Router4134 Series fact sheet
Attachment 22	Virtualization Performance and Fault Manager Fact sheet
Attachment 23	Virtual Services Platform Fact sheet
Attachment 24	Virtual Services Platform 4000 Series fact sheet
Attachment 25	Virtual Services Platform 7000 Series fact sheet
Attachment 26	Virtual Services Platform 9000 Series fact sheet
Attachment 27	WLAN 8100 Series fact sheet
Attachment 28	Avaya 1600 Series IP Deskphone
Attachment 29	Avaya 9600 Series IP Deskphone
Attachment 30	Avaya Agile Communication Environment
Attachment 31	Avaya Aura Call Center Elite
Attachment 32	Avaya Aura Conferencing
Attachment 33	Avaya Aura Contact Center
Attachment 34	Avaya Aura Presence Services Offer
Attachment 35	Avaya Aura Taking the Next Step
Attachment 36	Avaya Aura Workforce Optimization
Attachment 37	Avaya Aura
Attachment 38	Avaya Aura Application Enablement Services
Attachment 39	Avaya Aura Communication Manager Messaging
Attachment 40	Avaya Aura Communication Manager

©2013 Avaya Inc.

	Product Data Sheets
Attachment 41	Avaya Aura Messaging
Attachment 42	Avaya Aura Presence Services
Attachment 43	Avaya Aura Session Manager
Attachment 44	Avaya Aura System Manger
Attachment 45	Avaya Automated Chat
Attachment 46	Avaya B149 Conference Phone
Attachment 47	Avaya B159 Conference Phone
Attachment 48	Avaya B179 Conference Phone
Attachment 49	Avaya Call Management System
Attachment 50	Avaya Cloud Enablement for Video
Attachment 51	Avaya Cloud Enablement Solution for Enterprises
Attachment 52	Avaya Contact Center Control Manager
Attachment 53	Avaya Desktop Communications
Attachment 54	Avaya Flare Experience for Windows
Attachment 55	Avaya Flare Experience
Attachment 56	Avaya Microsoft Lync Integration
Attachment 57	Avaya One touch Video
Attachment 58	Avaya one-X Attendant
Attachment 59	Avaya one-X Mobile
Attachment 60	Avaya one-X Communicator
Attachment 61	Avaya Aura Experience Portal
Attachment 62	Call Center Elite Multichannel

©2013 Avaya Inc.

	Product Data Sheets
Attachment 63	Expanded Meet-Me-Conferencing
Attachment 64	IP Office Preferred Edition
Attachment 65	Proactive Outreach Manager
Attachment 66	Safe SIP Trunks – Avaya Border Controllers
Attachment 67	The Avaya Collaborative Cloud
Attachment 68	The Business Value of Enterprises
Attachment 69	UCC and SIP Drive Savings in Cost Conscious Enterprises

	Case Studies
Attachment 70	Avaya Converged (full suite of solutions) Sochi 2014 Olympic Winter Games
Attachment 71	Fabric Connect Healthcare Case Study - Franciscan Alliance
Attachment 72	Fabric Connect Higher Ed Case Study - Macquarie University Case Study
Attachment 73	Avaya Switch Clustering Higher Ed Case Study - Temple University
Attachment 74	Avaya Fabric Enabled Networking to Power InteropNet at Interop 2013

©2013 Avaya Inc.

AVAYA
The Power of We™

The Ignition CASE Wizard

A "dissolvable" application that simplifies deployment of 802.1x for secure network access

- Automates configuration of wired and wireless network connections
- Automates configuration of MS-NAP for health posture checks
- Guests, business partners, and employees can be securely online in seconds without unveiling security settings
- Cost saving in deploying 802.1x security settings without IT intervention

Identity Engines CASE Wizard

Simplifying the deployment of 802.1x and MS-NAP

Any device accessing your network in a secure fashion needs to be configured to your specific authentication and security requirements, but configuring every device individually is time-consuming, prone to errors and can result in the inadvertent exposure of important security information.

Avaya has a better way: the Avaya Identity Engines Ignition CASE Wizard. It automates the configuration of Windows-based devices, delivering secure access to both wired and wireless networks without installing software on the device itself.

Supports a Range of Configuration Scenarios

The Avaya Identity Engines Ignition CASE Wizard (CASE stands for Client Access to the Secure Enterprise) automates and simplifies the process of deploying 802.1x authentication and Microsoft NAP posture assessment throughout your network. It is the ideal choice for a wide range of configuration scenarios:

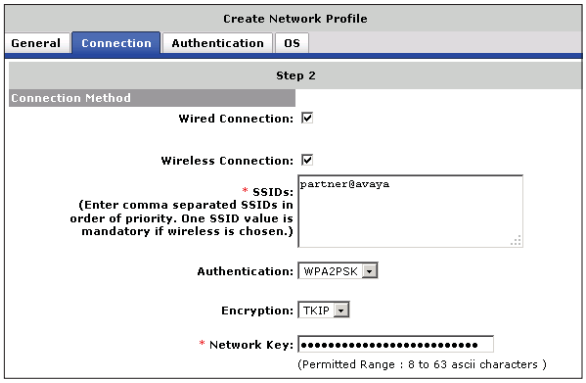
- Systematic configuration of employee PCs or ad hoc configuration for business partners bringing a new device into the enterprise.
- Support for business partners who need access to secure information in specific places on your network.
- Large scale reconfiguration of existing managed devices—for example to bring all employee devices in compliance with a new 802.1x security policy.

For each of these scenarios, and many others, IT can use the Ignition CASE Wizard to customize a package that addresses the specific parameters of that situation.

The CASE Wizard in Action

When users log on to the Ignition Access Portal, they are directed to a web page:

- The user is presented with a link to the CASE Wizard created by IT.
- The user clicks on the CASE Wizard link; the software downloads and configures the PC to comply with the network profile.
- The CASE Wizard dissolves away and the user is ready to securely connect



Screen from the CASE Wizard Administration Console

Avaya Identity Engines Portfolio

The Identity Engines Ignition Access Portal is part of the Avaya Identity Engines portfolio—a comprehensive set of software products designed to interwork and simplify network identity and access management, including Bring Your Own Device (BYOD) and guest access policies. The portfolio includes:

- Ignition Server
- Ignition Guest Manager
- Ignition Access Portal
- Ignition Posture with MS-NAP
- Ignition CASE Wizard

The Avaya Identity Engines portfolio integrates with any vendor's networking equipment to provide the central policy decisions needed to enforce role-based network access control while supporting federated identity management across all major corporate directories, e.g., Microsoft Active Directory, LDAP, RSA Authentication Server and more.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

The Avaya CASE Wizard can be hosted on the Avaya Identity Engines Ignition Access Portal or on any internal intranet location that employees have access to. The advantage of hosting the Ignition CASE Wizard on the Ignition Access Portal is that IT can allow only specific users (e.g., employees from finance) access to the CASE Wizard with security settings specifically designed for those users.

Depending on network design, the device may automatically connect to the network or await the input of additional login credentials. Either way, within seconds, the device is automatically configured to the specific requirements of your network without the need for any further action.

- Employees and business partners can gain secure, controlled access over different media and modes of connection, delivering the enterprise mobility that is critical to productivity and performance.
- IT can easily and cost-effectively impose corporate policy enforcement and compliance checking, including managing certificates, shared keys, MS-NAP and more.

Because the CASE Wizard is a dissolvable application, it does not remain on the client device. Also, the CASE profile can be customized to let the user revert to previous security settings. This is particularly useful for business partners who need secure access to your network while they are onsite practicing business, but need to revert back to their original configuration when they are finished. The CASE Wizard application works with all major browsers and supports all major Windows versions.

CASE Administration Control

The CASE Wizard application comes with an administrative console that is used to create the various CASE profiles and download them as a CASE deployment package.

The administrative console allows the IT administrator to define multiple network profiles, each with its own configuration and behavior settings. For example, an end-user device attempting to access an employee wired network might be configured differently than if the same user were attempting to access the wireless network. In this example, two different network profiles could be generated: one for the employee wired network and one for the wireless network.

Learn More

To learn more about the Ignition CASE Wizard and the entire Avaya Identity Engines Portfolio, including simplified licensing and affordable pricing, contact your Avaya Account Manager, Avaya Authorized Partner, or visit us at **www.avaya.com**.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
06/12 • DN7083

Identity Engines Access Portal

Simplifying how employees and guests authenticate and connect to the network:

- Supports network access for BYOD devices while keeping you in control
- Unifies access for both wired and wireless networks
- No special client-side software needed
- Enables non 802.1x device access to the network in a controlled fashion
- Device fingerprinting
- Manages access for employees, business partners and guests
- A solution for BYOD on-boarding
- CASE Wizard hosting

AVAYA
The Power of We™

Identity Engines Ignition Access Portal

Visibility and control over BYOD (Bring Your Own Device) Access

The spread of mobile devices across the enterprise is challenging IT departments to achieve higher levels of visibility and control over network access, without limiting the flexibility and value these devices deliver for anytime, anywhere productivity and collaboration.

The Avaya Identity Engines Ignition Access Portal meets this challenge—it establishes a portal that intercepts traffic from employees and guests, simplifying how devices authenticate and connect to the network while providing new tools to monitor, manage and control the level of access that is provided, including detailed visibility into the profiles of individual devices.

Instead of imposing arbitrary restrictions on mobile solutions, the Ignition Access Portal enables employees to safely connect a wide range of smartphones and tablets. It's an ideal solution for on-boarding and enterprise-wide management of Bring Your Own Device (BYOD) policies.

With the Access Portal, IT can now easily capture information on a wide range of devices—personal or enterprise-issued—and use the Identity Engines Ignition Server to make policy decisions and enforce appropriate access levels.

Ignition Access Portal in Action

- User opens browser and enters corporate or guest account credentials
- User authentication takes place against the Identity Engines Ignition Server leveraging the Identity Routing capabilities across federated directories
- Upon successful authentication, access is granted
- User device is "fingerprinted" and recorded

Avaya Identity Engines Portfolio

The Identity Engines Ignition Access Portal is part of the Avaya Identity Engines portfolio—a comprehensive set of software products designed to interwork and simplify network identity and access management, including Bring Your Own Device (BYOD) and guest access policies. The portfolio includes:

- Ignition Server
- Ignition Guest Manager
- Ignition Access Portal
- Ignition Posture with MS-NAP
- Ignition CASE Wizard

The Avaya Identity Engines portfolio integrates with any vendor's networking equipment to provide the central policy decisions needed to enforce role-based network access control while supporting federated identity management across all major corporate directories, e.g., Microsoft Active Directory, LDAP, RSA Authentication Server and more.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

The Avaya Access Portal solution requires no special client software. It works across any vendor's wireless or wired network, delivering a unified solution that effectively meets the needs of both users and IT for a simple, centralized approach to managing and controlling network access. A single license allows deployment of multiple Ignition Access Portals for a range of network access situations.

802.1x Enablement

The Avaya Identity Engines Ignition Access Portal can authenticate and provide access to:

- User devices that do not have the 802.1x capability
- User devices in which the 802.1x is there, but not configured

In addition to unifying wireless and wired device access, the Ignition Access Portal manages access for employees with either corporate-issued or personal devices, as well as guest devices.

No Client-side Software Needed

The Ignition Access Portal establishes a 'captive portal' page. When a user seeks access to the network, the Access Portal intercepts the user traffic until the proper authentication and authorization is met.

On the portal page (which enterprises can customize, for example, with company branding), users can be asked to enter login credentials, agree to terms of service, etc. Taking advantage of the user's browser to prompt for and collect credentials eliminates the need for client side software. User authentication takes place against the Identity Engines Ignition Server leveraging its identity routing capabilities across federated directories.

Creating Device Fingerprints

The Identity Engines Ignition Access Portal analyzes user traffic and captures device-specific attributes that make it possible for enterprises to set up comprehensive policies and enforce them using the Identity Engines Ignition Server. For example, employees may be granted full network access when connecting via a corporate-issued PC, but only restricted network access if they connect via a personal Apple iPad device.

A single license allows deployment of multiple Ignition Access Portals for different use cases, all against one Ignition Server instance (or HA-pair).

Learn More

To learn more about the Avaya Ignition Access Portal and the entire Avaya Identity Engines Portfolio, contact your Avaya Account Manager, Avaya Authorized Partner, or visit us at **www.avaya.com**.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
06/12 • DN7082

AVAYA
The Power of We™

Identity Engines Guest Manager

A Secure and Simpler way to address guest access:

- Provision Guests in under 10 seconds
- Self Provisioning Kiosk
- Detailed tracking and auditing
- Unified guest access for wired & wireless

Identity Engines Ignition Guest Manager

Contractors, temporary workers, customers, conference attendees and a variety of professionals who come into your office to do business now expect you to offer access to your network. However, granting guests access poses security risks. Also, you need to consider the many associated costs, including provisioning, managing and auditing guest accounts.

The Avaya Identity Engines Ignition Guest Manager allows you to provide secure network access to your guests — easily and cost-effectively — without taxing IT administrators.

Meeting the challenges of secure guest access

The Ignition Guest Manager is the leading guest management solution for secure network access. The solution manages guest and visitor network access across wired and wireless access points, and it enables you to apply granular authorization policies to limit guests' access strictly to permitted network resources.

The solution reduces the demand on IT departments because it's easily administered by front desk personnel or any employee tasked with being a guest "sponsor."

Delegated administration — Guest access is managed using an intuitive, web-based interface that can be easily customized to meet the needs of each organization. An integrated rules engine guarantees user accounts automatically expire at a scheduled time and date.

IT administrators can delegate guest account sponsorship duties to front desk personnel or any other employee. Sponsor accounts are stored on the Avaya Identity Engines Ignition Server or in an Active Directory or LDAP store. Delegated administration rules can ensure that each elected sponsor can create guest accounts with only those rights for which the sponsor has authority.

Improved productivity — For large events or conferences, the Ignition Guest Manager's bulk loading capability can configure hundreds or thousands of guest accounts. A self-provisioning feature offers organizations the ability to have guests provision their own wireless access at a kiosk or online portal. This cost-saving feature allows, for example, conference attendees or school visitors to obtain secure, authenticated access without requiring the participation of administrative staff. The system can be configured for complete security and audit tracking. The Ignition Guest Manager can host multiple self-provisioning kiosks simultaneously, each with different privileges, such as access zones and duration. Each can offer different display characteristics and branding.

Stronger security — With SMS integration, organizations can send login credentials to a guest's cell phone. When a visitor registers at a kiosk or online portal, the Ignition Guest Manager automatically sends a password to the visitor's cell phone or other mobile device. Security is improved because the required credentials are hard to spoof. Only the visitor is privy to the password, and an auditable link between the visitor and the network is created.

Revenue generation — The Ignition Guest Manager offers organizations the ability to provide automated credit card payment for wireless network access. Schools, hospitals and government agencies can use this feature to generate revenue by automating secure, feebased wireless access to their networks.

Avaya Identity Engines Portfolio

The Identity Engines Guest Manager is part of the Avaya Identity Engines portfolio—a comprehensive set of software products designed to interwork and simplify network identity and access management, including Bring Your Own Device (BYOD) and guest access policies. The portfolio includes:

- Ignition Server
- Ignition Guest Manager
- Ignition Access Portal
- Ignition Posture
- Ignition CASE Wizard
- Ignition Analytics

The Avaya Identity Engines portfolio integrates with any vendor's networking equipment to provide the central policy decisions needed to enforce role-based network access control while supporting federated identity management across all major corporate directories, e.g., Microsoft Active Directory, LDAP, RSA Authentication Server and more.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

Policy enforcement — The Ignition Guest Manager assigns network access rights and permissions based on a guest's role or relationship to the organization, based on where they are connecting from (conference rooms, labs, lobbies, etc.), and based on how they connect (wireless, wired, VPN). Guests can be provisioned with access to particular subnets or VLANS, or you may limit them to outbound web access only. The Ignition Guest Manager also allows the network administrator tospecify precisely which devices a user may use to log in.

Auditing and logging — The Ignition Guest Manager records a detailed audit trail of network access for each user. It also tracks the actions of the sponsors who create guest accounts to help detect and identify excessive account generation or inappropriately provisioned accounts.

Conclusion

Offering guests access to your network services is essential. Today, the Avaya Identity Engines Ignition Guest Manager enables organizations to securely provide network access to guests and visitors without compromising the security of the network. To reduce the burden on IT professionals, the solution can be easily executed by anyone empowered to sponsor network access for guests.

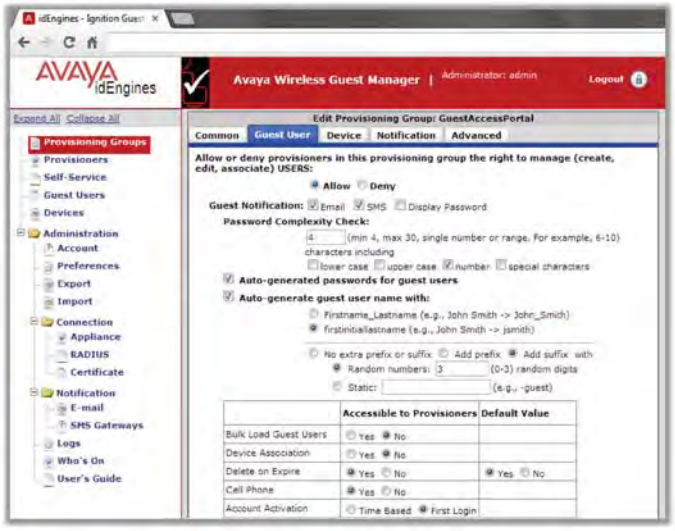


Figure 1. The network administrator delegates guest management tasks to provisioners.

Key features

- **Fast and Intuitive** — Provision guest accounts in less than 10 seconds
- **Centralized access control** — Manages guest authentication and access across wired, wireless and VPN networks.
- **Delegated provisioning** — Delegated provisioning lets designated greeters create and manage guest user accounts.
- **Self-provisioning** — Allows guests to provision their own temporary accounts from kiosks or an online portal.
- **Embedded database** — Segregates guest accounts from enterprise directory.
- **Auditing** — Centralized log data enables detailed reporting of guest access.
- **Bulk loading** — Rapidly configures hundreds or thousands of guest accounts from database records.
- **Policy driven** — Network access rights and permissions are assigned based on guest's role in or relationship to the organization.
- **Credit card payment** — Integrates with inhouse credit card payment systems without requiring staff involvement.
- **SMS integration** — Sends guest login credentials to the user's cell phone, allowing the use of hard-to-spoof guest identifiers.
- **Automatic account termination** — Discontinues guest access rights at a scheduled date and time.
- **Vendor Agnostic Solution** — Easy to deploy over any vendor's wired or wireless network

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™ or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
03/13 • DN5312-03

AVAYA
The Power of We™

Identity Engines Ignition Server

Allowing Network and BYOD access without compromising security:

- Ensures consistent and predictable network access for managed and unmanaged devices
- Controls who can use the network to access which resources and when and where they may do so
- Supports any device, any network, any vendor
- Facilitates regulatory compliance
- Software-only, highly available
- Automated, standards-based

Avaya Identity Engines Ignition Server

Solving today's BYOD network access problems

IT departments face the challenge of maintaining network security while offering more types of network access (wired, wireless and VPN) to a diverse and growing number of users and devices. With an increasing number of users bringing personal devices into work as a result of the Bring Your Own Device (BYOD) trend, it is essential that IT departments have control and visibility over network access without limiting the flexibility and value these devices deliver for anytime, anywhere productivity and collaboration.

The Avaya Identity Engines Ignition Server is a comprehensive policy engine that uses identity as the basis for managing and monitoring access across your network. It is an easy-to-deploy RADIUS and TACACS+ server that connects with your existing identity systems and switch infrastructure. The Ignition Server provides a central policy decision point that streamlines access management, improves security and satisfies reporting requirements.

The Ignition Server lets network administrators apply policies that evaluate user account details, switch details, device type and/or any RADIUS attribute to determine network access. Similar criteria may be used to evaluate TACACS+ requests for administrative access. It supports dynamic session provisioning, allowing each user to be assigned to the appropriate VLAN, based on the attributes of the user and device.

Product Benefits

Improved Security - Policy based access control governs which users can log in and which areas of the network they can access. With Avaya Identity Engines, enterprises have granular control of both users AND devices. For example, a user who connects wirelessly to the corporate network via their work-provided laptop can be granted full network access if they are running the latest security and anti-virus software. The same user connecting via their personal iPad may be granted restricted access so as not to jeopardize the security of the network. The Ignition Server sets session parameters at login time, allowing VLAN provisioning and the activation of switch-based security features.

Reduced Cost - The Ignition Server provides centralized network AAA services and posture checking. Security settings may be provisioned dynamically, freeing IT staff from the burden of manually configuring switches and access points.

Compliance - Identity Engines Ignition Server provides an accurate view of which users and devices have logged in and offers simple report generation for compliance. The optional Ignition Analytics tool automatically generates and distributes reports to satisfy security and compliance regulations.

Easy Deployment - The Ignition Server integrates seamlessly with your existing network and directories. Because authentication is performed directly against your enterprise user directories,

Avaya Identity Engines Portfolio

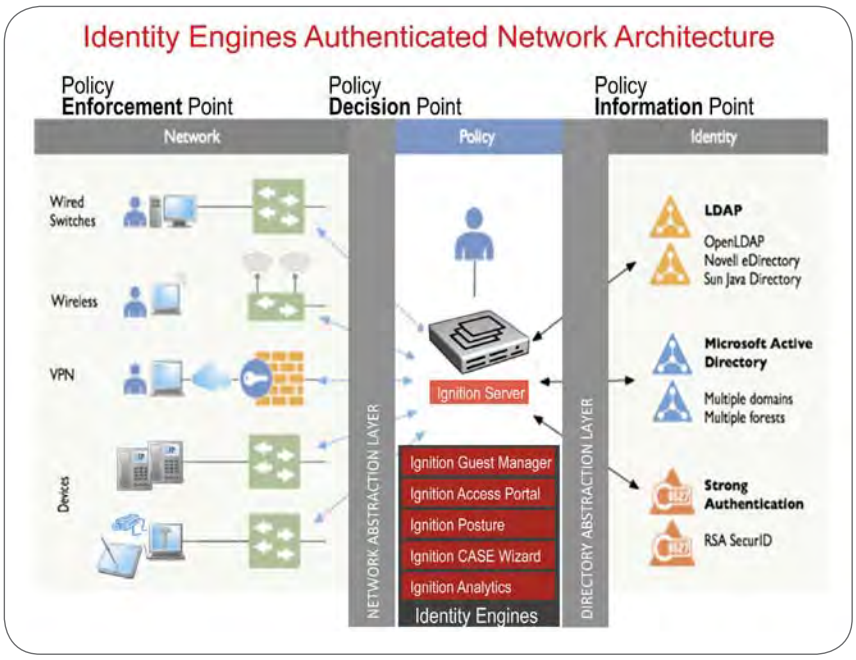
The Identity Engines Ignition Server is part of the Avaya Identity Engines portfolio—a comprehensive set of software products designed to interwork and simplify network identity and access management, including Bring Your Own Device (BYOD) and guest access policies. The portfolio includes:

- Ignition Server
- Ignition Guest Manager
- Ignition Access Portal
- Ignition Posture
- Ignition CASE Wizard
- Ignition Analytics

The Avaya Identity Engines portfolio integrates with any vendor's networking equipment to provide the central policy decisions needed to enforce role-based network access control while supporting federated identity management across all major corporate directories, e.g., Microsoft Active Directory, LDAP, RSA Authentication Server and more.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.



access policies operate on your latest user account information, reducing latency and helping to ensure consistent security.

Standards Based - The standards based architecture of Identity Engines helps ensure that you can continue to enforce centralized network access control – even as the number and type of wireless, wired and VPN systems continue to grow. It applies access policies consistently and transparently across the network.

Learn More

To learn more about the Identity Engines Ignition Server and the entire Avaya Identity Engines Portfolio, contact your Avaya Account Manager, Avaya Authorized Partner, or visit us at **www.avaya.com**.

Key Features

- **Centralized AAA** — Provides centralized RADIUS and TACACS+ authentication, authorization and accounting services for network devices.
- **Standards-based policy engine** — Applies access policies consistently and transparently across the network.
- **TACACS+** — The Ignition Server authorizes and logs all administrator actions on your switches and network devices that support TACACS+ authorization.
- **Easy deployment model** — Integrates seamlessly with your existing network and directories.
- **High availability** — Provides a highly available RADIUS and TACACS+ server as well as a highly available database service for Ignition policy decisions.
- **Smart lookup of users** — Lets you determine how Ignition searches multiple user stores for user credentials, attributes and groups.
- **Dynamic session provisioning** — Assigns each user to an appropriate VLAN, based on the attributes of the user or the context of the login.
- **Rich support for non-802.1X devices** — Industry-leading MAC address authentication feature to handle non-802.1X devices such as medical equipment and printers.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
01/13 • DN5310-02

Avaya Networking:

Many of the world's top banks, airlines, healthcare providers, educational institutions, government agencies, and major corporations depend on Avaya networks to help run their businesses. That's because Avaya Networking provides advanced enterprise-class reliability, performance, and security. Avaya networks are streamlined to better utilize and manage networking resources, and to deliver mission-critical dependability with superior return on investment.

Seasoned Leadership

On January 12, 2012, Avaya announced that Marc Randall joined Avaya as senior vice president and general manager for Avaya Networking.

Marc is a highly respected veteran of the networking industry, and most recently served as vice president and general manager of Cisco Systems' Scalable Network Business Unit. He has also held positions as president and CEO for Force10 Networks and senior vice president of Brocade Communications. (Press release)

Avaya has aligned its leadership around its vision of innovative customer-centric solutions.

Avaya is commitment to bringing The Power of We™ to every Avaya customer, to help drive faster collaboration, smarter decisions and better business results.

Analyst and Third party Reports

Miercom Reports:

- Plug And Play
- Ethernet Fabric
- Wireless LAN

Current Analysis Company Assessment: Avaya Enterprise Networking & Data Center

Magic Quadrant for the Wired and Wireless LAN Access Infrastructure

Info-Tech LAN and WAN Infrastructure

Analyst and Third party Quotes

"Avaya has made tremendous strides with VENA and other recent product launches and should be included on the short list for organizations looking to make an investment in network technology."
Zeus Kerravala, ZK Research

"Virtual Enterprise Network Architecture (VENA) offers a well-integrated wired and wireless one-stop access layer strategy for enterprises looking for an access layer solution with a strong security play."
— Gartner Magic Quadrant for the Wired and Wireless LAN Access Infrastructure

"Avaya and Cisco are two of the leading network equipment vendors. Info-Tech's five-year comparison of their LAN and WAN infrastructure demonstrates that customers can save as much as 54% by choosing Avaya. In addition to these cost savings, their focus on delivering reliability, improving efficiency, and increasing scalability makes Avaya a persuasive alternative to buying Cisco." (Source Info-Tech LAN and WAN Infrastructure)

"Avaya Networking has gone back to its roots and focuses on the technology that both differentiates and takes advantage of its long heritage in data networking. Avaya Networking is aggressively competing against other networking companies through innovation, both with the early adoption and support of standards in addition to some strong technology in their intellectual property" (Source: Current Analysis Company Assessment: Avaya Enterprise Networking & Data Center)

"Avaya appears to understand and value the assets it possesses more clearly now than it has since the acquisition of Nortel's Enterprise business." (Source: Current Analysis Company Assessment)

Avaya Data Networking's future is brighter than it has been in years with the successful launch of the VENA solution, which is positioned as the logical conclusion to the virtualization that is occurring in the data center. (Source: Current Analysis Company Assessment)

Avaya continues to build on the long history of technical innovation that Nortel brought to the table, and has demonstrated its commitment and real consistency in advancing its VENA vision. (Source: Current Analysis Company Assessment)

avaya.com

Press Articles

Avaya aims to boost IP multicast methods with new network fabric
ZDNet, Rachel King, April 17, 2013

Interop 2012 Preview: 12 Cool Products
InformationWeek, Kurt Marko
May 5, 2012

Avaya at Interop: Managing Networks for Applications
No Jitter, Eric Krapf
May 8, 2012

Avaya revs Identity Engines for more secure BYOD
InfoWorld, Ted Samson
May 8, 2012

Cisco's not on board, but is Shortest Path Bridging winning?
Network World, Jim Duffy
May 11, 2012

BYOD insecurity frustrating your customers? Avaya has new options
Channel Partners
May 8, 2012

Avaya: Evolve or Get Beat Up
Enterprise Networking Planet, Sean Michael Kerner
May 8, 2012

Avaya provides networking education to Leeds Metropolitan University
ComputerWeekly.com, Jennifer Scott
May 8, 2012

Avaya's Randall: Sorry, Cisco, It's About Applications, Not Networks
CRN, Chad Berndtson
February 16, 2012

Press Quotes

"Is Shortest Path Bridging (SPB) winning the data center fabric standards battle? One could have walked away from Interop 2012 with that impression, given the level of interest in it during a conference session and the production implementations that were discussed at the show."
—Jim Duffy, *Network World* (Source: Cisco's not on board, but is Shortest Path Bridging winning?)

"At Avaya, SPB is being deployed today in production environments and can work on any device that supports IP and Ethernet"
—Shamus McGillicuddy, SearchNetworking.com (Source: Shortest Path Bridging: The interoperable alternate to spanning tree?)

"In the last 18 months [Avaya has] made a big turnaround, investing in the networking side."
—Andre Kindness, Forrester Research in Network World Canada (Source: Avaya's new network chief has 'lofty goals')

Recent Press Releases

Erie 1 Board of Cooperative Educational Services (BOCES) and Kenton County School District, KY, 5 March, 2012, Avaya Expands Work with a Growing Number of K-12 Schools on Bring Your Own Device Mobile Learning Programs

St. Thomas University (Canada), Durham District School Board (Canada) and Arrive (Norway), 18 April, 2012, New Ethernet Switches from Avaya Simplify Operations for Small and Midsize Enterprises and Remote Branches

Schiphol Airport, 25 April, 2012, Avaya Network Powers New Luggage Handling System at Schiphol Airport

Park University and Temple University, 30 April, 2012, Avaya Expands Range and Reach of Collaborative Learning Opportunities in Higher Education

Lester B. Pearson School Board and Concord Hospital, 8 May, 2012, Avaya Secures Mobile Collaboration and Bring Your Own Device for Enterprises

Concord Hospital, 8 May, 2012, Concord Hospital Boosts Bandwidth and Reduces Costs with Avaya Virtual Enterprise Network Architecture Solutions

Oslo University Hospital, 8 May, 2012, Avaya Networking Transforms Oslo University Hospital Network

Leeds Metropolitan University, 8 May, 2012, Leeds Metropolitan University Ensures Better, Faster, Smarter Technology Adoption with Avaya's Next-Generation Networking Solutions

Leeds Metropolitan University and Sparebanken Vest, 8 May, 2012, Avaya Highlights Avaya VENA Customer Momentum at Interop Las Vegas 2012

Sparebanken Vest, 8 May, 2012, Sparebanken Vest Banks on Avaya for Future-Proofed Network Infrastructure Upgrade

Kutztown University, 16 May, 2012, Kutztown University Evolves Data Center With Advanced Avaya Ethernet Switching Solution

Carroll University, 23 May, 2012, Carroll University Expands Virtual Education Services with AvayaLive™ Engage

Dairy Crest, 29 June, 2012, Dairy Crest Chooses Avaya for Business Continuity and Disaster Recovery

University of Kagoshima, 3 July, 2012, Japans International University of Kagoshima Deploys Avaya Energy Saver for a Greener, More Cost-effective Network

Niger Dock, 5 July, 2012, Niger Dock Seeks Strength and Reliability with Avaya Networking

Ronald McDonald House, 17 July, 2012, Avaya and Carousel Keep Families Connected at World's Largest Ronald McDonald House® in Chicago

Niagara College, 24 July, 2012, Niagara College Innovates and Educates with Avaya Video Solution

Peabody Hotel, 31 July, 2012, Peabody Orlando Hotel Turns IT Services to Profit with Avaya Networking Solutions

Dallas Christian College, Cobalt Data Centers, 27 August, 2012, Avaya to Accelerate Collaborative Cloud with New Turnkey Solutions Featuring EMC, VMware Technologies

ProMedica, Cobalt Data Centers, Leeds Metropolitan University, 27 August, 2012, Avaya Expands Virtualization Capabilities to Drive the Collaborative Cloud

avaya.com

SAAED, 16 October, 2012, SAAED Signs Framework agreement with Avaya to Enhance Communication of UAE Roadside Assistance

Macquarie University, 6 November, 2912, Macquarie University Delivers Enhanced Student Collaboration and Services with Avaya Networking Solutions

Rothesay Netherwood School, 19 November, 2012, Rothesay Netherwood School Selects Next-Generation Avaya Network to Enhance Anytime, Anywhere, Any Device Learning

City of Boynton Beach, 19 December, 2012, Florida Beach Town Selects Avaya Network to Reduce Costs and Provide Seamless Support to City Staff

City of Taylor, 9 January, 2013, Michigan City Cuts Costs and Improves Service to Citizens with New Avaya Network

Franciscan Alliance, 25 February, 2013, Healthcare Organizations Choose Avaya Collaboration Solutions to Improve Delivery of Patient Care

Centrair Airport, 25 March, 2013, Central Japan International Airport Deploys Avaya Ethernet Switch Solution to Reduce TCO

Department of General Services, State of California, Red Rock Telecommunications, TSE Communications, 9 April, 2013, Avaya Collaboration Pod Speeds Cloud Deployments for Enterprises and Cloud Service Providers

Changhong Group, 9 April, 2013, Changhong Group Deploys Avaya Network to Enhance Collaboration and Productivity

University of the Sciences, 15 April, 2013, University of the Sciences Adopts Next-Generation Avaya Network to Meet Increased Demands

Interop Best of Show Finalist

The Avaya Identity Engines portfolio integrates with the network infrastructure to provide the central policy decision needed to enforce role-based network access control. The Avaya Identity Engines portfolio has been selected as a Security Category Finalist for Best of Interop 2012

Avaya is the Official Supplier of Network Equipment to the Sochi 2014 Olympic Winter Games

Read all about it here

avaya.com

The Company we keep

What we are most proud of are the loyal customers that continue to deploy and refresh with Avaya Networking products. Our valuable customers span the full breadth of industry verticals, and stand as testament to our claims as being the provider of truly cost-effective solutions that deliver Industry-leading reliability and efficiency.

AVAYA
The Power of We™

avaya.com

AVAYA
The Power of We™

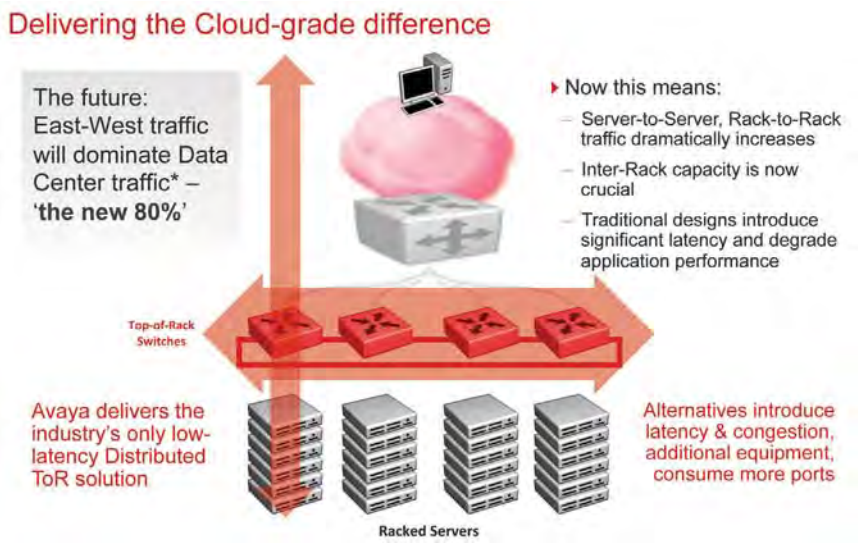
Avaya VENA Distributed Top-of-Rack

Delivering game-changing productivity, agility, and dependability

Supporting mission-critical applications requires 24x365 always-on infrastructure, and the Avaya Virtual Services Platform 7000 delivers against this challenge. It is a highly strategic product that is fit-for-purpose for today's connectivity requirements and future-ready for the evolving and emerging application-driven needs of tomorrow.

Helmuth von Moltke the Elder, the nineteenth century military strategist, theorized "no plan survives contact with the enemy"; as it is in battle so it is when operating a multi-faceted data center. Best-laid plans for application consolidation and centralization progressively dissipate, impacted by something known as the 'application fragmentation' phenomenon. The hurly-burly of day-to-day Virtual Machine operations – both planned and unplanned – means that the numerous components that combine to form modern composite application architectures inevitably become dispersed through the data center resource pool. The idealized notion of application traffic being contained within a single rack, and therefore being serviced by a single network device, is pure fantasy. The reality is that multiple east-west transitions are required to support a single north-south transaction.

Avaya's unique value is centered on our ability to deliver simplified network designs that uniquely deal with the real-world pain-points within the data center; most specifically, we satisfy the demand for a low-latency solution for east-west traffic. The Avaya Virtual Enterprise Network Architecture (VENA) Fabric Connect solution, incorporating the Virtual Services Platform 7000 (VSP 7000) deployed as a 'Distributed ToR', delivers revolutionary network simplicity, because it is the only network fabric offering that creates network-wide services with a single control plane independent of the physical topology.



The VSP 7000 delivers a new take on the traditional Top-of-Rack Switch requirement. For modest scenarios, Switches can be horizontally interconnected, creating a single logical system spanning eight units/racks.

Time-to-service, in the context of the data center, is a simple function of provisioning, and it draws on all three areas of the classic 'plan, build, run' model. The ability to implement change, in real-time, and without risk is key to delivering business-centric time-to-service. Avaya delivers this with our Virtualization Provisioning Service (VPS) management application that acts as the glue that binds the lifecycle activity of VMware's vCenter with the edge-only, one-touch provisioning capability enabled by our Fabric Connect solution.

Alternatively, hundreds of VSP 7000s can be flexibly meshed for massive scale-out that uniquely delivers multi-hop, low-latency. Forming a single-tier, Avaya's Distributed ToR is a connectivity solution for the data center's primary requirement: high-performance, low-latency, Layer 2 east-west traffic. Utilizing the high-speed virtual backplane capacity, and invoking Ethernet's plug & play advantage, the VSP 7000 empowers simplified, one-touch, edge-only provisioning.

The VSP 7000 is an integral component of our Fabric Connect solution for end-to-end Fabric-enabled networking; and our unique Distributed ToR delivers the industry's best application performance solution. By keeping the data center's Layer 2 traffic within the ToR tier – leveraging the high-performance virtual backplane system that is created between multiple Switches – real-world multi-rack/multi-server latency is dramatically reduced.

Avaya's innovative Distribute ToR approach offers integrated Layer 3 interconnectivity, together with traditional Layer 2 functionality throughout data center environments. As and when needed, Layer 3 connectivity and additional scale is delivered by an Aggregation Switching layer, leveraging multiple 10 Gigabit or (future) 40/100 Gigabit connections.

The most striking example of the unique capabilities of VSP 7000 is when real-world, multi-hop – that is, rack-to-rack-to-rack – latency performance is compared to traditional two-tier offerings; the VSP 7000 injects an average of only 1 microsecond of latency per Switch hop. This is an astonishing level of performance, and is several orders of magnitude better than any other industry offering. While there are other examples of individual ToR Switches offering microsecond latency, we would all appreciate that no data center is ever networked by a single device, and transiting through an Aggregation Switch can add 20 microsecond, or more, per hop; a four-hop data mash-up could cost as much as 100 microseconds, as opposed to 4 microseconds with the VSP 7000 Distributed ToR solution.

Additionally, the VSP 7000 features a front-panel expansion slot, making field-upgradability as easy as hot-swapping in a new pluggable expansion adaptor; options include additional 10Gbps ports (SFP+ sockets or RJ45 10GBASE-T), and future 40Gbps, 100Gbps Ethernet, and Storage Convergence.

As Virtual Machines are prepared for deployment or migration by server administration, vCenter's API is leveraged by VPS to prepare the Distributed ToR network of VSP 7000s – automatically, dynamically, and proactively. The benefits are pronounced and significant. Compliant, role-based migrations are now enacted without any manual network administration, in real-time, and the human-error induced outages of the past are genuinely a thing of the past.

An innovative design helps ensure that the appropriate portion of the switching fabric's 1,280Gbps performance is dedicated to supporting MDA-based connections, while still providing full wire-speed throughput for all front panel ports and the flexible, high-speed Fabric Interconnects. The power of these to create the high-performance, low-latency Distributed ToR solution cannot be over-estimated. Although Avaya has architected the Distributed ToR solution to scale up to 480 Switches within a single instance, the typical build block is thirty-two VSP 7000 Switches across 16 server racks, delivering 1,024 ports meshed across almost 20Tbps of virtual backplane. This building block concept is itself extremely flexible; with virtually no hard-and-fast topology constraints, blocks can be as small or large as required, and easily interconnected with extended-reach copper or fibre cabling.

Time-to-service, in the context of the data center, is a simple function of provisioning, and it draws on all three areas of the classic 'plan, build, run' model. The ability to implement change, in real-time, without risk is key to delivering business-centric time-to-service. Avaya delivers this with our Virtualization Provisioning Service (VPS) management application, which acts as the glue that binds the lifecycle activity of VMware's vCenter with the edge-only, one-touch provisioning capability enabled by our Fabric Connect solution.

As Virtual Machines are prepared for deployment or migration by server administration, vCenter's API is leveraged by VPS to prepare the Distributed ToR network of VSP 7000s – automatically, dynamically, and proactively. The benefits are pronounced and significant. Compliant, role-based migrations are now enacted without any manual network administration, in real-time, and the human-error induced outages of the past are genuinely a thing of the past.

Highlights of the VSP 7000 hardware are a hardened physical architecture of dual, hot-swappable, directional AC or DC power supplies and fan trays, making it ideally suited to deliver today's pressing need for flexible, high-speed Ethernet connectivity in the high-performance Top-of-Rack role. A full lifetime hardware and software warranty is simply the icing on the cake, including complimentary next-business-day shipment for the life of the product.

Avaya believes that the IEEE's 802.1aq Shortest Path Bridging (SPB) standard is the option that provides the most opportunity for advancement when it comes to Fabric-based networking. Forming the basis of our Fabric Connect solution, it is the only technology capable of creating network-wide services with a single control plane that is truly independent of the physical topology, thereby avoiding issues with layering and stitching of multiple protocols into a complicated mess and/or simply failing to scale beyond a single physical data center.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

The VSP 7000 brings unique differentiation to the ToR role: with a flexible, non-blocking architecture, including wire-speed server access connections and Fabric Interconnects. The VSP 7000 is purpose-built to support today's dynamic data center operations and high-density, low-latency 10 Gigabit Ethernet Top-of-Rack deployments. It alleviates infrastructure complexity and reduces power consumption with a truly scalable and strategic architecture; it is designed to deliver a high-performance Distributed ToR solution into the next decade.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
08/12 • DN7132

AVAYA
The Power of We™

Distribution of Globally Routable IPv6 over Avaya VENA Fabric Connect

Table of Contents

IPv6 in General 1

Test-Bed for IPv6 over Fabric Connect 2

Ramifications on larger IPv6 deployments 3

Summary 4

Future Developments 5

This document provides an overview of a proven solution for the distribution of globally routable IPv6 Addresses, leveraging Avaya VENA Fabric Connect. Fabric Connect is Avaya's next-generation networking protocol; an enhanced implementation of the standardized Shortest Path Bridging (SPB) technology.

The high level results of the work demonstrate that an enterprise can effectively use Fabric Connect to provide for the overlay of a routed IPv6 infrastructure that is incongruent to the existing IPv4 topology. Furthermore, with IPv4 default gateways resident on Layer 2 Virtual Service Networks, dual-stack end-stations can have full end-to-end hybrid connectivity without the use of Layer 3 transition methods such as 6to4, ISATAP, or Teredo. This results in a clean and simple implementation that allows for the use of allocated globally routable IPv6 addresses in a native fashion.

IPv6 in General

IPv6 is the next generation form of IP addressing. Replacing IPv4, it is intended to greatly enhance address space as well as end-to-end transparency (which was becoming more and more difficult to achieve) by increasing use of Network Address Translation (NAT) in IPv4. NAT was created to provide for use of 'private' IPv4 addressing within an organization and then for a gateway interface device to the public Internet; but even this technology could not forestall the unavoidable end of available contiguous blocks of IPv4 addresses which ran out earlier this year. Current efforts to recycle IPv4 addresses will provide a short-lived reprieve however the supply of recycled addresses will be quickly exhausted.

As a result, many enterprises that had IPv6 on the back-burner are now taking a new look at this technology and its deployment requirements. Researching this issues can be a daunting task because, beyond knowledge of IPv6 itself, one needs to understand what's required for IPv6 to co-exist in an IPv4 network environment.

Completely fork-lifting a company's communications environment is not practical and, even if an enterprise were willing to do this, issues regarding contact with the outside world need to be addressed because the IPv6 suite is not directly backwards compatible to IPv4. This lack of direct backwards compatibility has generated efforts within the IETF to resolve this complication.

A number of RFCs, drafts as well as deprecated drafts, covering a wide variety of translation or transition methods have been written, each having its own set of complications and security or resiliency issues that must be dealt with. At the end of the day, most IT personnel walk away with a headache and wish for the good old days of IPv4 only.

Since the introduction of IPv6, different schools of thought have arisen regarding how to address co-existence between IPv4 and IPv6. Network and Port Translation (NAT-PT), for example, once considered a possible solution, faded into deprecation because the approach proved to be intractable for the most part. Other methods have stayed and even become 'default'; as an example, all Microsoft OSs running IPv6 run 6to4, ISATAP and Teredo tunneling methods.

One school of thought has won out: dual-stack on the end-stations with tunneling across the IPv4 network to tie IPv6 islands together. This method works but, as mentioned earlier, even this method has complications and issues that need to be dealt with.

If one looks at the evolution long enough however it becomes apparent that if Layer 2 methods could provide the paths between IPv6 islands, things like 6to4, ISATAP and Teredo are not required and having eliminated ISATAP and Teredo, an enterprise is free to use formally allocated globally routable address space. The only requirement for the dual-stack host is that it has clear default routes for both IPv6 and IPv4. With typical VLAN based networks this design, while feasible, does not scale and quickly becomes intractable due to the complications of tagged trunk design within the network core. With Avaya's Fabric Connect capability, this scalable Layer 2 method is now available. The following pages describe the test bed environment and ramifications of this work on larger network infrastructures.

Test-Bed for IPv6 over Fabric Connect

The figure on the following page depicts minimal requirements for a successful hybrid IPv6 deployment over Fabric Connect. As the diagram shows, requirements are fairly concise and simple; what is required is a Virtual Service Network (VSN) that is associated with edge VLANs that host dual-stack end-stations.

Additionally, this VSN needs to attach to IPv6 and IPv4 default gateways enabled by edge VLAN's that interface to relevant devices.

Requirements are straight forward and
easy to understand. Illustrated in a simplified form, this topology has been deployed in Avaya labs to demonstrate the proposed configuration.

For simplicity, in Avaya's test-bed, a common VSN that would support the IPv6 deployment was implemented. More complicated IPv6 routed topologies can easily be achieved by using Inter-VSN Routing with routers external to the Fabric Connect cloud; illustrations of this are provided later in this document. In the lab, Avaya

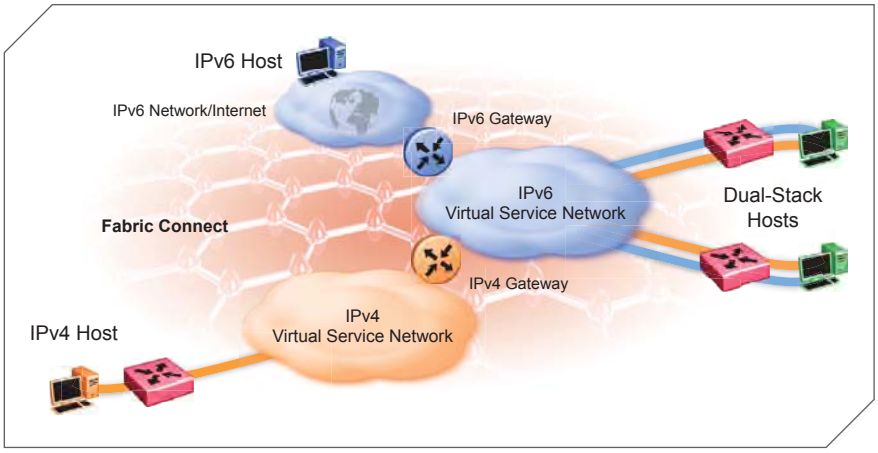


Figure 1: Required elements for a hybrid IPv6 deployment over Fabric Connect

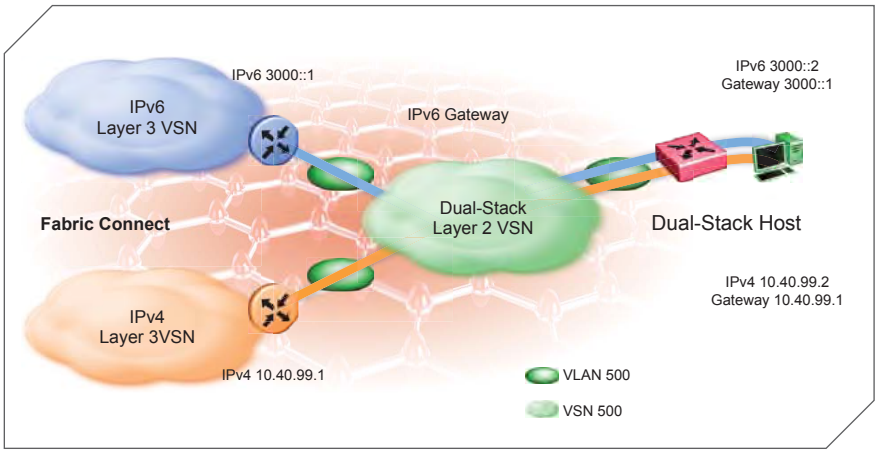


Figure 2: Native IPv6 Dual-Stack over a Layer 2 VSN

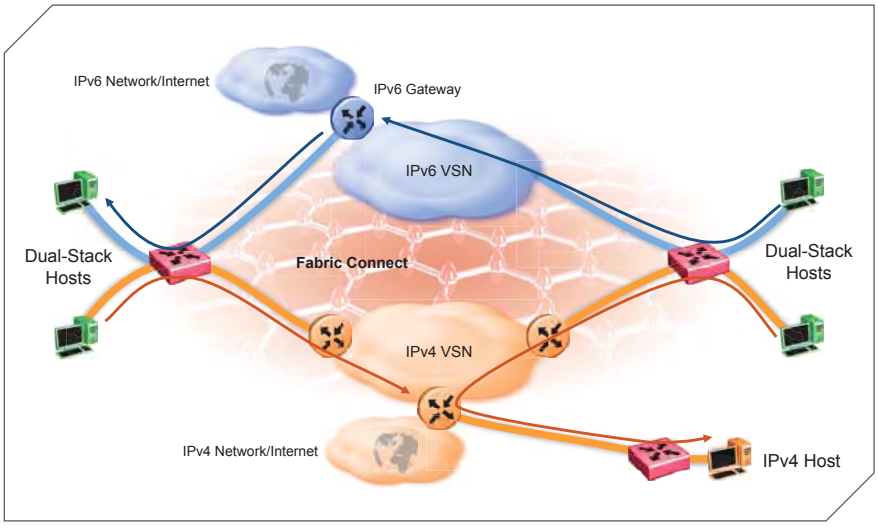


Figure 3: Dual-stack End-Station perspective for default routed paths

created VLAN ID 500 at three different key points at the edge of the domain. A Virtual Service Network was created within the Fabric Connect domain (also using 500 as its identifier) that ties the different VLANs together. At one edge VLAN a Windows 7 end-station running dual-stack had the IPv4 Address of 10.40.99.2 and the IPv6 Address of 3000::2 configured. For IPv4 the end-stations default gateway was 10.40.99.1 and for IPv6 the default gateway was 3000::1. The IPv6 default gateway is also attached to VLAN 500 and is able to provide directly routable paths in and out of the VSN. Additionally, the IPv4 default gateway is attached and reachable.

The dual-stack end-station has end-to-end hybrid connectivity to both IPv6 and IPv4 environments without the use of any Layer 3 transition method. The topology depicted in figure 3 shows that from the perspective of dual-stack end-stations there is complete hybrid connectivity and available routed paths to both IPv4 and IPv6 environments. Connectivity out into INET2 to native IPv6 resources is enabled by the use of officially-allocated global addressing.

Ramifications on larger IPv6 deployments

A major drawback of Layer 3 transition methods for IPv6 is that they bind the IPv6 topology to IPv4, which many find to be undesirable. After all, they say, why implement a new globally routed protocol and then lock it down to an existing limited legacy topology? A potential solution, running IPv6 as “ships-in-the-night” with IPv4, requires use of VLANs and tagged trunks and, while shown to be feasible in the previous test-bed (figure 2), this approach suffers from complexity in larger topologies and does not lend itself to scale.

Tractable on an enterprise scale, Fabric Connect vastly simplifies these issues because the IPv6 deployment becomes an overlay Layer 3 environment that rides on top of the underlying IS-IS protocol and therefore deploying it does not require detailed configuration changes to the network core. This original "ships-in-the-night" vision can now be realized in real world designs.

The following diagram shows a large network topology that interconnects two Data Centers; the topology in blue shows the IPv6 native deployment, with green indicating the IPv4 legacy routed environment. Note that while there are common touch-points between the two environments for legacy dual-stack IPv4 use, the two IP topologies are quite independent of one another.

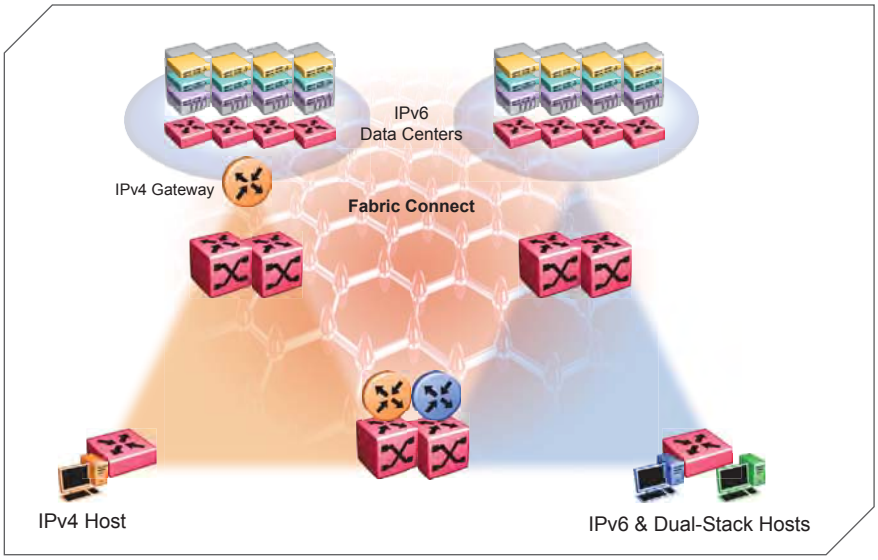


Figure 4: Totally Independent IP topologies

This is a very attractive trait as most environments, when introducing the new protocol, will want to take the opportunity to redesign the network. In addition, it allows for modification of one IP environment without undue dependency on the other.

Summary

This document describes a simple topology design that can implement an IPv6 dual-stack host environment with full hybrid connectivity using Layer 2 VSNs within a Fabric Connect domain. The use of Fabric Connect allows for true enterprise scale deployments that avoid the complications of core tagged trunks and routing. As such, the deployment of IPv6 becomes a very tractable proposition with a number of notable benefits:

- **Topological independence** – there is no dependence on IPv4 topology; the two IP environments are totally incongruent, providing great flexibility and scale.
- **Services separation** – the IPv6 deployment enjoys a separate logical transport that is totally separated; resources are more clearly managed and SLAs can be achieved.
- **Edge provisioning** – this is a key feature of Avaya's VENA framework; Fabric Connect removes the need to configure the network core for various services that it offers and, as a result, a huge amount of complexity and potential for human error are effectively removed.
- **Unmatched resiliency** – the convergence times of the Fabric Connect mesh are much faster than the Layer 3 routing timeouts and, as such, most failures within the core will be transparent to both Layer 3 routing environments.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

Further, if one routing environment were to have problems it would be isolated to that environment and not affect the other. With Layer 3 transition methods such as 6to4, for example, if the IPv4 topology has issues, it affects IPv6 connectivity, possibly even prohibiting it. With Fabric Connect, all environments are separated, independent and highly resilient.

Future Developments

The foundational protocol used Shortest Path Bridging is IS-IS and unlike OSPF – which requires an update in order to support IPv6 – IS-IS is protocol agnostic. Research is underway for Global Routing Table route injection of IPv6 directly into IS-IS, as well as the ability to support Layer 3 VSNs with VRF for IPv6 to allow for integrated OSPFv3. As this research and development effort becomes reality IPv6 routing will be absorbed into the Fabric Connect cloud as just another protocol that is transported across. These developments will enable a truly integrated approach to implementing IPv6 in an extremely stable and scalable fashion. Avaya is fully committed to this future integrated vision but, as this application note illustrates, very tractable implementations of IPv6 over Avaya VENA Fabric Connect can be realized today.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
05/13 • LB4770-01

AVAYA
The Power of We™

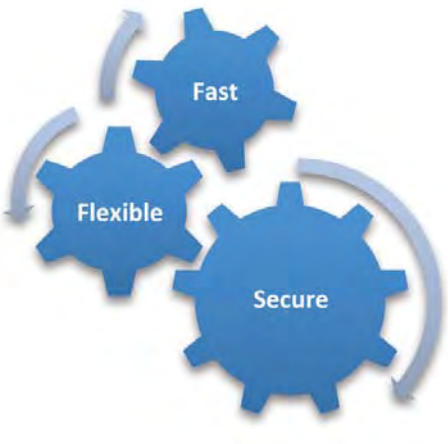
Avaya VENA Fabric Connect

Delivering game-changing productivity, agility, and dependability

By creating one contiguous, end-to-end Fabric, Avaya is empowering businesses to achieve unprecedented levels of infrastructure productivity, service agility, and network dependability, the very essence of the fast, flexible, and secure design aspirations.

Our industry is currently experiencing a shift in application architecture away from simple Client/Server to complex, composite application designs, including the adoption of business operations intelligence applications that are based on communications-enabled business processes and complex-event processing. And, of course, at the heart of the next-generation data center is the pervasive adaption of Virtual Machine (VM) computing; the ability to support mobility is crucial to making this environment successful. Inefficient mobility equates to reduced flexibility, degraded time-to-service, and loss of productivity.

The Avaya Virtual Enterprise Network Architecture (VENA) Fabric Connect solution enhances productivity by optimizing the way that networks are deployed, implemented, operated and maintained. Liberating the business from the topology constraints of rival solutions and alternative technologies, Fabric Connect empowers versatile placement of networking components and interconnections; optimized end-to-end connectivity is automatically and instantaneously calculated – and similarly recalculated during planned or unplanned topology changes.



Delivering genuine service agility is new and unique. Prior to Fabric Connect, networks were forced down one of two paths: they either provisioned as they went, or pre-provisioned en masse. Neither option is conducive to efficient and effective operations. Attempting to match the extremely dynamic nature of VM life cycles with the provisioning burden of a traditional network introduces significant delay in time-to-service. Days, weeks, or even months could be lost in planning and scheduling the required change. Then, there is the very real risk of change-induced error. Similarly, the other extreme – pre-provisioning – also introduces substantial risk, given the inferred burden to configure every possible network service on every available network device. This approach introduces network-wide fault domains and, with the logical desire to extend the network fabric beyond the relatively straightforward confines of the Data Center, is becoming increasingly untenable now that discrete user-centric

Avaya VENA Fabric Connect empowers seamless VM mobility – be that across the room, across the city, across the country, or across the world. Leveraging a unique three-dimensional concept of service abstraction, VMs appear on logical end-to-end networks, and although it's typical for data center, and VMs more specifically, to operate at Layer 2 only, there is also support to utilize Layer 3 in this scenario.

devices and sessions enter into the pre-provisioning equation. What business wants is dynamic, simplified, and orchestrated provisioning; Avaya Fabric Connect delivers precisely this solution.

Isolating the network from its services delivers carrier-grade protection and availability. The complete separation of services and the encapsulation of user addressing at the Fabric Connect boundary ensures that the core of the network becomes transparent to users, appearing as a series of simple pipes, tunneling – as it where – traffic based upon an any-to-any connectivity model. Fully deterministic traffic flows and a proven, standardized management framework greatly simplify day-to-day operations; once again the robust foundational technology that underpins Fabric Connect shows the value of its service provider heritage.

For years both industry and network operators have been searching for a way to reconcile the seemingly opposing goals of Server and Network administration; while one sought service flexibility the other strove for service stability. Obviously the business wants both; flexibility and stability need to be delivered organically by a technology that decouples services from the underlying technology. Avaya Fabric Connect achieves this, doing what no rival solution can – creating a service delivery paradigm that abstracts the IP layer from the physical and enables, the virtualization of the network to be synchronized with compute virtualization.

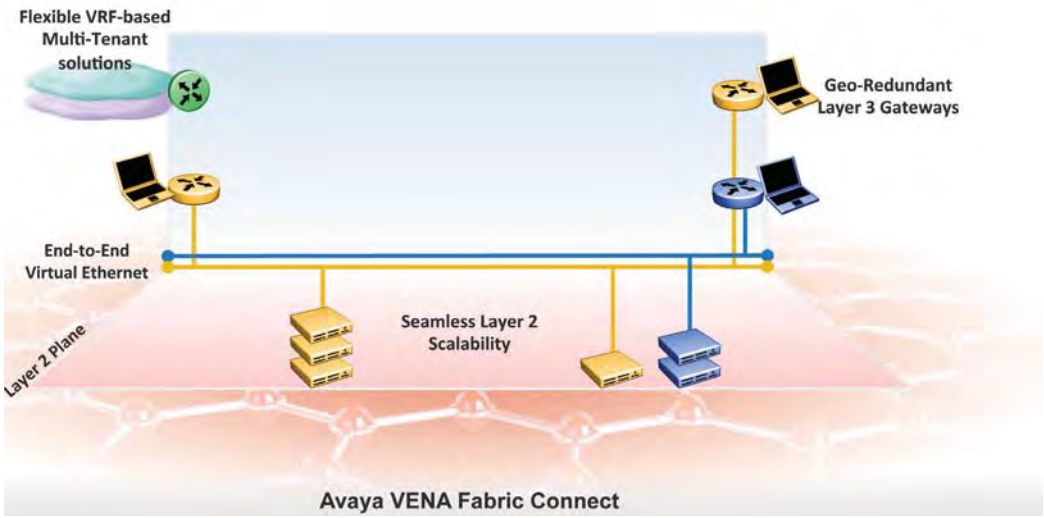
Avaya's introduction of the Fabric Connect solution sets a new standard for service agility. The edge-only, one-touch provisioning model empowers service change without time-consuming change control because isolation of user services and separation from the network core ensures full compartmentalization of the failure domain and therefore the risk. The business benefit is pronounced, with service additions and changes enacted in real-time. This is especially true and relevant when moving compute resources away from the mass of isolated, application-specific servers that characterized the traditional data center. Orchestrating highly efficient provisioning, management, troubleshooting, and securing multiple VMs requires network-level insight and visibility into virtual machine lifecycle, application of appropriate network and port-level configurations at the individual VM level, dynamic tracking of VMs as they move throughout the data center, and enforcement of network attributes for VMs, no matter where instances migrate.

A further advantage that Avaya provides is to facilitate service orchestration, and VM mobility is a perfect example of delivering tangible time-to-service benefits. Real-world application life cycle management requires the regular migration of VMs – this could be for maintenance, recovery, or scaling – however traditionally they have been restrained by network limitations; VMs can

By conceptually inserting a 'virtual Ethernet' between physical topology and network routing layers, Fabric Connect empowers end-to-end connectivity. Common services – applications, VLANs, etc. – are automatically and instantaneously interconnected on the basis of one-touch, edge-only provisioning. And because all connectivity is Ethernet-based, it leverages Ethernet's ubiquity, its plug & play characteristics, and its simplicity.

only move within a single broadcast domain. Fabric Connect re-writes the rulebook and, by creating a single end-to-end solution, services can be moved anywhere and everywhere. However, certain considerations remain: physical connectivity, capacity, Layer 3 gateway functionality, etc. This is where and how Avaya Virtualization Provisioning Service leads, by seamlessly integrating with VMware vCenter to synchronize the network and server domains; Switches are configured on the fly to reflect the mobility requirements.

Avaya VENA Fabric Connect empowers seamless VM mobility across the room, across the city, across the country, or across the world. Leveraging a unique three-dimensional concept of service abstraction, VMs appear on logical end-to-end networks, and although it's typical for data center, and VMs more specifically, to operate at Layer 2 only, there is also support to utilize Layer 3 in this scenario. By conceptually inserting a 'virtual Ethernet' between physical topology and network routing layers, Fabric Connect empowers end-to-end connectivity. Common services – applications, VLANs, etc. – are automatically and instantaneously interconnected on the basis of one-touch, edge-only provisioning. And because all connectivity is Ethernet-based, it leverages Ethernet's ubiquity, its plug & play characteristics, and its simplicity.



Avaya VENA Fabric Connect

Avaya Fabric Connect obviously benefits from its foundation being that of the IEEE's Shortest Path Bridging standard (802.1aq); it was, after all, designed not simply as a 'Spanning Tree replacement', but as a true, full-featured, simplified virtual private networking technology– an 'Enterprise-friendly MPLS' if you will. The Fabric is extended the instant that devices are enabled, and the end-to-end 'virtual Ethernet' propagates throughout the domain, regardless of the physical topology (or mix of topologies). Shortest, most optimal paths are calculated and common services – such as VMs – only ever consider themselves to be a single hop away from the other members of their community.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

Abstracting the services from the constraints and limitation of the traditional two-dimensional design model of protocol-applied-to-physical liberates the network and empowers a radical shift in network design and service delivery. At Layer 2, the predominate, although not exclusive, requirement within the data center, VLANs (or unique hosts) are simply mapped to the required 'Service ID'; this occurs only at the Fabric Connect edge, reducing time-to-service and the burden and error-prone requirement of end-to-end, device-by-device, link-by-link configuration. And because the underlying technology is natively extensible, Fabric Connect integrates support for Layer 3 in the same way; VRFs are mapped to the appropriate Service IDs and end-to-end connectivity is immediately delivered.

Indeed, Avaya is able to optimize the provisioning of routing functionality, and with our enhanced implementation of router redundancy (VRRP), with multiple active instances, we can distribute gateway functionality through the Fabric, as and where it is most effective. This is particularly relevant in a distributed, physically-dispersed Data Center model. Avaya's groundbreaking Switch Cluster capability is deployed on the perimeter of the domain, providing resilient active-active connections for attached devices, including servers or other network devices.

The Avaya VENA Fabric Connect solution enables businesses to build a Cloud-grade infrastructure that is extensible from data center to campus and beyond; end-to-end network virtualization is a crucial differentiation of VENA. Designed for next-generation networking, Fabric Connect is a flexible solution that can be tailored to fit current business needs while providing a smooth migration path that accommodates natural or dramatic evolution. Addressing the crucial data center requirements, Fabric Connect creates self-aware network infrastructures that simplify the logical provisioning of network services and provide the components required to create a simplified, network-wide solution that features active/active connectivity and service-orientated networking from Top-of-Rack to Core.

Avaya is uniquely positioned based on decades of networking experience, and this helps ensure that the transition to an Avaya Fabric Connect solution is low-risk, seamless, and overwhelmingly positive.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
08/12 • DN7130

AVAYA
The Power of We™

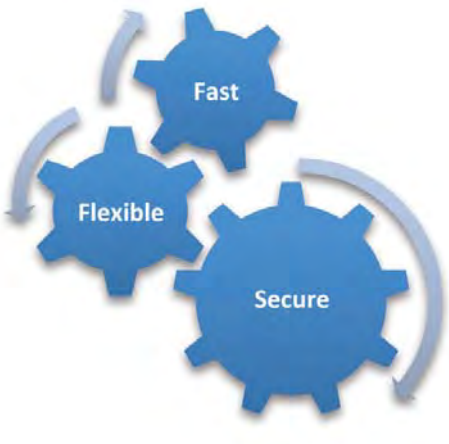
Avaya VENA Fabric Connect

Delivering game-changing productivity, agility, and dependability

By creating one contiguous, end-to-end Fabric, Avaya is empowering businesses to achieve unprecedented levels of infrastructure productivity, service agility, and network dependability, the very essence of the fast, flexible, and secure design aspirations.

Our industry is currently experiencing a shift in application architecture away from simple Client/Server to complex, composite application designs, including the adoption of business operations intelligence applications that are based on communications-enabled business processes and complex-event processing. And, of course, at the heart of the next-generation data center is the pervasive adaption of Virtual Machine (VM) computing; the ability to support mobility is crucial to making this environment successful. Inefficient mobility equates to reduced flexibility, degraded time-to-service, and loss of productivity.

The Avaya Virtual Enterprise Network Architecture (VENA) Fabric Connect solution enhances productivity by optimizing the way that networks are deployed, implemented, operated and maintained. Liberating the business from the topology constraints of rival solutions and alternative technologies, Fabric Connect empowers versatile placement of networking components and interconnections; optimized end-to-end connectivity is automatically and instantaneously calculated – and similarly recalculated during planned or unplanned topology changes.



Delivering genuine service agility is new and unique. Prior to Fabric Connect, networks were forced down one of two paths: they either provisioned as they went, or pre-provisioned en masse. Neither option is conducive to efficient and effective operations. Attempting to match the extremely dynamic nature of VM life cycles with the provisioning burden of a traditional network introduces significant delay in time-to-service. Days, weeks, or even months could be lost in planning and scheduling the required change. Then, there is the very real risk of change-induced error. Similarly, the other extreme – pre-provisioning – also introduces substantial risk, given the inferred burden to configure every possible network service on every available network device. This approach introduces network-wide fault domains and, with the logical desire to extend the network fabric beyond the relatively straightforward confines of the Data Center, is becoming increasingly untenable now that discrete user-centric

Avaya VENA Fabric Connect empowers seamless VM mobility – be that across the room, across the city, across the country, or across the world. Leveraging a unique three-dimensional concept of service abstraction, VMs appear on logical end-to-end networks, and although it's typical for data center, and VMs more specifically, to operate at Layer 2 only, there is also support to utilize Layer 3 in this scenario.

devices and sessions enter into the pre-provisioning equation. What business wants is dynamic, simplified, and orchestrated provisioning; Avaya Fabric Connect delivers precisely this solution.

Isolating the network from its services delivers carrier-grade protection and availability. The complete separation of services and the encapsulation of user addressing at the Fabric Connect boundary ensures that the core of the network becomes transparent to users, appearing as a series of simple pipes, tunneling – as it where – traffic based upon an any-to-any connectivity model. Fully deterministic traffic flows and a proven, standardized management framework greatly simplify day-to-day operations; once again the robust foundational technology that underpins Fabric Connect shows the value of its service provider heritage.

For years both industry and network operators have been searching for a way to reconcile the seemingly opposing goals of Server and Network administration; while one sought service flexibility the other strove for service stability. Obviously the business wants both; flexibility and stability need to be delivered organically by a technology that decouples services from the underlying technology. Avaya Fabric Connect achieves this, doing what no rival solution can – creating a service delivery paradigm that abstracts the IP layer from the physical and enables, the virtualization of the network to be synchronized with compute virtualization.

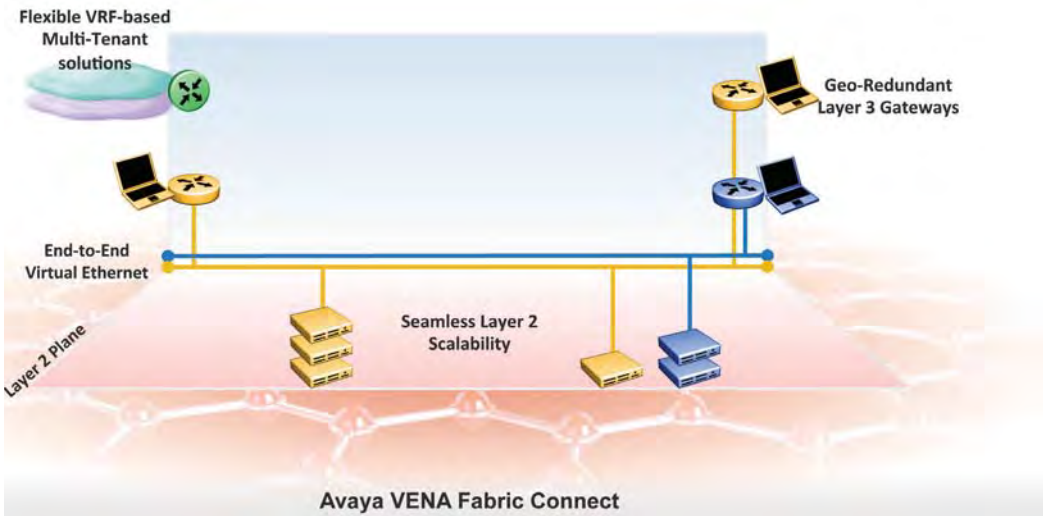
Avaya's introduction of the Fabric Connect solution sets a new standard for service agility. The edge-only, one-touch provisioning model empowers service change without time-consuming change control because isolation of user services and separation from the network core ensures full compartmentalization of the failure domain and therefore the risk. The business benefit is pronounced, with service additions and changes enacted in real-time. This is especially true and relevant when moving compute resources away from the mass of isolated, application-specific servers that characterized the traditional data center. Orchestrating highly efficient provisioning, management, troubleshooting, and securing multiple VMs requires network-level insight and visibility into virtual machine lifecycle, application of appropriate network and port-level configurations at the individual VM level, dynamic tracking of VMs as they move throughout the data center, and enforcement of network attributes for VMs, no matter where instances migrate.

A further advantage that Avaya provides is to facilitate service orchestration, and VM mobility is a perfect example of delivering tangible time-to-service benefits. Real-world application life cycle management requires the regular migration of VMs – this could be for maintenance, recovery, or scaling – however traditionally they have been restrained by network limitations; VMs can

By conceptually inserting a 'virtual Ethernet' between physical topology and network routing layers, Fabric Connect empowers end-to-end connectivity. Common services – applications, VLANs, etc. – are automatically and instantaneously interconnected on the basis of one-touch, edge-only provisioning. And because all connectivity is Ethernet-based, it leverages Ethernet's ubiquity, its plug & play characteristics, and its simplicity.

only move within a single broadcast domain. Fabric Connect re-writes the rulebook and, by creating a single end-to-end solution, services can be moved anywhere and everywhere. However, certain considerations remain: physical connectivity, capacity, Layer 3 gateway functionality, etc. This is where and how Avaya Virtualization Provisioning Service leads, by seamlessly integrating with VMware vCenter to synchronize the network and server domains; Switches are configured on the fly to reflect the mobility requirements.

Avaya VENA Fabric Connect empowers seamless VM mobility across the room, across the city, across the country, or across the world. Leveraging a unique three-dimensional concept of service abstraction, VMs appear on logical end-to-end networks, and although it's typical for data center, and VMs more specifically, to operate at Layer 2 only, there is also support to utilize Layer 3 in this scenario. By conceptually inserting a 'virtual Ethernet' between physical topology and network routing layers, Fabric Connect empowers end-to-end connectivity. Common services – applications, VLANs, etc. – are automatically and instantaneously interconnected on the basis of one-touch, edge-only provisioning. And because all connectivity is Ethernet-based, it leverages Ethernet's ubiquity, its plug & play characteristics, and its simplicity.



Avaya VENA Fabric Connect

Avaya Fabric Connect obviously benefits from its foundation being that of the IEEE's Shortest Path Bridging standard (802.1aq); it was, after all, designed not simply as a 'Spanning Tree replacement', but as a true, full-featured, simplified virtual private networking technology– an 'Enterprise-friendly MPLS' if you will. The Fabric is extended the instant that devices are enabled, and the end-to-end 'virtual Ethernet' propagates throughout the domain, regardless of the physical topology (or mix of topologies). Shortest, most optimal paths are calculated and common services – such as VMs – only ever consider themselves to be a single hop away from the other members of their community.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

Abstracting the services from the constraints and limitation of the traditional two-dimensional design model of protocol-applied-to-physical liberates the network and empowers a radical shift in network design and service delivery. At Layer 2, the predominate, although not exclusive, requirement within the data center, VLANs (or unique hosts) are simply mapped to the required 'Service ID'; this occurs only at the Fabric Connect edge, reducing time-to-service and the burden and error-prone requirement of end-to-end, device-by-device, link-by-link configuration. And because the underlying technology is natively extensible, Fabric Connect integrates support for Layer 3 in the same way; VRFs are mapped to the appropriate Service IDs and end-to-end connectivity is immediately delivered.

Indeed, Avaya is able to optimize the provisioning of routing functionality, and with our enhanced implementation of router redundancy (VRRP), with multiple active instances, we can distribute gateway functionality through the Fabric, as and where it is most effective. This is particularly relevant in a distributed, physically-dispersed Data Center model. Avaya's groundbreaking Switch Cluster capability is deployed on the perimeter of the domain, providing resilient active-active connections for attached devices, including servers or other network devices.

The Avaya VENA Fabric Connect solution enables businesses to build a Cloud-grade infrastructure that is extensible from data center to campus and beyond; end-to-end network virtualization is a crucial differentiation of VENA. Designed for next-generation networking, Fabric Connect is a flexible solution that can be tailored to fit current business needs while providing a smooth migration path that accommodates natural or dramatic evolution. Addressing the crucial data center requirements, Fabric Connect creates self-aware network infrastructures that simplify the logical provisioning of network services and provide the components required to create a simplified, network-wide solution that features active/active connectivity and service-orientated networking from Top-of-Rack to Core.

Avaya is uniquely positioned based on decades of networking experience, and this helps ensure that the transition to an Avaya Fabric Connect solution is low-risk, seamless, and overwhelmingly positive.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
08/12 • DN7130

AVAYA
The Power of We™

Network Virtualization

Using Shortest Path Bridging and IP/SPB

Table of Contents

Section 1: Introduction 1
Section 2: Benefits of Shortest Path Bridging 3
2.1 Network Service Enablement 3
2.2 Time to Service Improvements 5
2.3 Robustness 6
2.4 Predictable Network Behavior 6
2.5 Reduce Operational Expenses 7
Section 3: Networking Issues with Today's Technologies 7
3.1 Service and Infrastructure Separation 7
3.2 Network Virtualization 8
3.3 Bridged Domain Issues 10
3.4 Storage and Data Center Bridging 11
Section 4: SPB Solution Details 12
4.1 Virtualization Standards Evolution 12
4.2 The SPB Model 13
4.3 Frame format 14
4.4 Protocol Infrastructure 15
4.5 Service Layer QoS 19
4.6 Forwarding Behavior and Security 19
4.7 Layer 2 VLAN Extensions 20
4.8 Failure and Recovery 20
4.9 Scalability 20
4.10 Routing Between Extended VLANs 20
4.11 SPB and Edge Connectivity with Switch Clustering 20
4.12 Layer 3 VRF Extensions 20
4.13 Network Simplification by Protocol Overlay Reduction 21
Section 5: Value Proposition Summary 22
Section 6: Deployment Scenarios 23
6.1 The Virtualized Data Center 23
6.2 Deployment Scenario: MultiTenant City Network 27
Section 7: References 32
7.1 IEEE 32
7.2 IETF 32

Abstract

This White Paper discusses the benefits and applicability of the IEEE 802.1aq Shortest Path Bridging (SPB) protocol which is augmented with sophisticated Layer 3 routing capabilities. The use of SPB and the value to solve virtualization of today's network connectivity in the enterprise campus as well as the data center are covered.

This document is intended for any technically savvy network manager as well as network architect who are faced with:

- Reducing time to service requirements
- Less tolerance for network down time
- Network Virtualization requirements for Layer 2 (VLAN-extensions) and Layer 3 (VRF-extensions)
- Server Virtualization needs in data center deployments requiring a large set of Layer 2 connections (VLANs)
- Traffic separation requirements in campus deployments for security purposes as well as robustness considerations (i.e. contractors for maintenance reasons needing access to their equipment or guest access needs)
- Multi-tenant applications such as airports, governments or any other network with multiple discrete (legal) entities that require traffic separation

Section 1: Introduction

The evolution of Ethernet technologies continues with the IEEE 802.1aq standard of Shortest Path Bridging. This next generation virtualization technology will revolutionize the design, deployment and operations of the enterprise campus core networks along with the enterprise data center. The benefits of the technology will be clearly evident in its ability to provide massive scalability while at the same time reducing the complexity of the network. This will make network virtualization a much easier paradigm to deploy within the enterprise environment.

Shortest Path Bridging with its extensions eliminates the need for multiple overlay protocols in the core of the network by reducing the core to a single Ethernet based link state protocol which is providing all virtualization services (virtualization of bridging, routing, multicast) in an integrated model. In addition, by relying on end-point-service provisioning only, the idea of "build it once and don't have to touch it again" becomes a true reality. This simplicity also aids in greatly reducing time to service for new applications and network functionality.

The design of networks has evolved throughout the years with the advent of new technologies and new design concepts. Customer requirements drive this evolution and the adoption of any new technology is primarily based on the benefit it provides versus the cost of implementation. The cost in this sense is not only cost of physical hardware and software, but also in the complexity of implementation and on-going management. New technologies that are too "costly" may never gain traction in the market even though they provide a theoretical benefit.

In order to change the way networks are designed, the new technologies and design criteria must be easy to understand and easy to implement. When Ethernet evolved from a simple shared media with huge broadcast domains to a switched media with segregated broadcast domains, there was a shift in design. The ease of creating a VLAN and assigning users to that VLAN made it commonplace and a function that went without much added work or worry. In the same sense, if Shortest Path Bridging is to be successful, then the implementation of network virtualization must become as common and easy as creating a VLAN is today.

The key value propositions for SPB include:

- Standards-based
- IEEE 802.1aq standard – no lock in technology
- Resiliency
- Single robust protocol with sub-second failover
- Optimal network bandwidth utilization
- Simplicity
- One protocol for all network services
- Plug & Play deployment reduces time to service
- Scalability
- Evolved from carrier with enterprise-friendly features
- Separates infrastructure from connectivity services
- Flexibility
- No constraints on network topology
- Easy to implement virtualization

Section 2: Benefits of Shortest Path Bridging

As with any new technology, it is important to understand the benefits that can be expected from its use. It is critical to weigh these benefits against the cost in order to truly arrive at the realistic value proposition. Understanding the values also sets the proper expectations up front and will be a key factor in how and where the technology is deployed. Several of these benefits are provided here as proof points for the use of Shortest Path Bridging*.

2.1 Network Service Enablement

2.1.1 Data Center Bridging

Data Center Bridging (DCB) is gaining attention by many enterprises. The ability to support storage traffic over Ethernet has many significant benefits. The most compelling being the cost savings by converging the data center on one infrastructure. Significant savings can be realized for both capital expenditures (CAPEX) as well as operational expenditures (OPEX). Reduction in the amount of hardware (network interfaces, host bus adapters, storage switches) contributes to these large and attainable savings.

iSCSI and NAS are storage technologies which are based on TCP/IP, thus operate on today's Ethernet networks without any additional functionality. Fibre Channel by nature runs on a separate infrastructure from traditional Ethernet. Recent enhancements to the T11 standard have introduced Fibre Channel over Ethernet (FCoE) that provides capabilities of running Fibre Channel over an Ethernet infrastructure. In order for Fibre Channel storage traffic to be converged on Ethernet, several enhancements must be made. Ethernet by design is a transport that can lose packets and simply retransmit. In a storage network, this is not acceptable; therefore the Ethernet infrastructure must provide a lossless functionality. This new functionality is part of the 802.1 DCB standardization projects.

Another major requirement for storage transport based on FCoE is transparent Layer 2 connectivity. There is no concept of Layer 3 routing domains for Storage Area Networks which makes the extension of SANs between geographically dispersed data centers that much more of a challenge. Root Bridge based Spanning Tree Layer 2 topologies using VLANs are not seen as robust enough for storage transport. In addition, these networks do not support any form of shortest path switching, which is required to provide minimal latency for storage traffic.

With the convergence of the SAN and traditional LAN within the data center, SPB provides a unique value proposition to seamlessly extend the Layer 2 SAN domains within and across data centers. A shortest path with minimal latency will automatically be created and if there is a failure of a link or switch, the failover time will be less than sub-second. SPB also removes the complexity of

* For the purposes of simplicity, this paper with focus on the MAC-in-MAC version - otherwise known as SPBM - of the IEEE 802.1aq standard.

manual VLAN extensions and eliminates the cumbersome Spanning Tree protocol from the design. SPB's capability of using multiple parallel paths (ECTs) is another major advantage in providing a truly superior transport solution for Storage Area Networks.

2.1.2 Server Virtualization

The expansion of the data center, a result of both scaled up server architectures and traditional "one application, one server" sprawl, has created problems in housing, powering, and cooling large numbers of underutilized servers. In addition, IT organizations continue to deal with the traditional cost and operational challenges of matching server resources to organizational needs that seem fickle and ever changing. These are two leading factors that have led to the mass adoption of server virtualization. The use of virtualization and specifically virtual machines is profoundly changing data center dynamics.

Virtual machines can significantly mitigate many of these challenges by enabling multiple application and operating system environments to be hosted on a single physical server while maintaining complete isolation between the guest operating systems and their respective applications. Hence, server virtualization facilitates server consolidation by enabling organizations to exchange a number of underutilized servers for a single highly utilized server running multiple virtual machines.

These new server virtualization technologies allow the dynamic placement of the applications on any virtualized server infrastructure. With this data center(s) are becoming a "cloud", services can be placed wherever needed or where most resources are available. To enable this transparency, Layer 2 VLAN extensions within the data center as well as across the backbone infrastructure between the data centers are required to provide a robust (transparent) connectivity service.

In today's traditional LAN/WAN design, the extension of numerous VLANs and their propagation within data centers can prove challenging. Ensuring that all redundant links are properly configured as well as all switches can be a time-consuming operation, and can introduce significant risk due to the need to regularly administer the configurations of crucial core devices. This is especially true in data center environments that are continually shifting to match application and business requirements.

SPB removes the complexity by eliminating the need to configure multiple points throughout the network. The simple end-point provisioning is done where the application meets the network, while all points in between are automatically provisioned through SPB's robust link state protocol. The ability to transparently extend Layer 2 and/or Layer 3 domains across a virtual backbone with virtually no effort and no risk enforces SPB's unique value proposition.

2.1.3 Multi-Tenant Applications

As large enterprises continue to evolve, many have become very similar to network service providers/carriers. The enterprise IT organization is the "service provider" for its internal customers. With this comes a new and evolving set of requirements that traditional providers have been accustomed to for many years. The new network requirements are instantiating enhanced design methodologies in order to create complete traffic separation between the customer domains, provide uninterrupted service for business applications, significantly reduce the time to service from weeks/months to hours/days and accommodate flexible network deployments.

With the need to support these complex multi-tenant environments comes the added cost and complexity of operating a "carrier-class" network. In most cases, enterprise network operations teams have a relatively small staff and budget. Carrier technologies, which have been built to scale to thousands of customers, have an inherent complexity, which is in many cases too expensive to operate for enterprise customers. A simpler solution which provides the same or even more functionality can help reduce network operation costs significantly.

SPB is the technology that will help satisfy all aspects of the multi-tenant customer. The technology evolved from similar protocols used by carriers and service providers. SPB has been enhanced to add "enterprise friendly" features to give it the best of both worlds, carrier robustness / scalability and applicability with enterprise-class features and interoperability. The simplicity of the technology doesn't require an entire team with specialized training or knowledge and therefore makes it very appealing. Existing staff will quickly understand the simple end-point provisioning and the ease of troubleshooting a much less complex network that inherently supports Layer 2 and Layer 3 virtualization. SPB provides all the benefits of a carrier-class network without all the overhead, complexity, or cost, it's simple and scalable.

2.2 Time to Service Improvements

With server virtualization come the feature / requirement to move server instances from one physical device to another. This flexibility now allows the server instance to move within a data center or between data centers. The easiness of moving a server instance from one physical server to another physical server puts additional requirements on the network infrastructure. The move of a server instance will be transparent to the rest of the network. The physical addressing is kept intact and moved to the new location. For the network piece, it's all about how quickly the same IP subnet can be extended and made available on a different location in the enterprise. Traditionally extending VLANs and IP subnets across a network infrastructure required careful planning and was not an instantaneous job.

When there are only a few VLANs requiring this functionality, it may not be such a daunting task, however, as the number of VLANs grow, the number of services

grow, and as traffic separation through network virtualization becomes commonplace, the task suddenly is not so simple and straightforward and definitely requires more work and more attention.

SPB helps to reduce the time to service by as much as 90% for the network connectivity that is supporting the application virtualization. The VLAN and VRF extension capabilities and its end-point-provisioning improve time-to-service drastically compared to legacy technologies. The built-in features of network virtualization also reduce the time to service for creating the virtualized domains needed to maintain the traffic separation between different enterprise functions and/or organizations.

2.3 Robustness

As more services are converged onto the enterprise network, the mission critical nature grows exponentially. Many enterprises are global in nature and therefore access to networks, applications and services are truly required 24x365. It is a common assumption that the network will always be there and available. It has become yet another utility that users take for granted. With this being today's reality, it is imperative to maximum network availability. Network down time almost always results in lost revenue. The network design and the underlying technologies must ensure uninterrupted access to business critical services.

New technologies must provide enhanced capabilities in order to become accepted and utilized. One critical capability of SPB can be seen with an increase in the robustness of the network. In essence, SPB can add another 9 to the enterprise availability. Striving for five 9's availability (which equates to less than five minutes of unplanned downtime per year) has been the goal of every network design and implementation. The deployment of SPB with its robust link state protocol, its sub-second end-to-end network restoration and its end-user MAC encapsulation provides significant network availability improvements and can add another '9' to over availability. By moving to a single protocol and not using legacy technologies such as spanning tree based Layer 2 VLAN transport solutions, SPB simplifies and adds another level of resiliency.

2.4 Predictable Network Behavior

Today's layered approach for network protocols inherently creates dependencies of upper layer protocols on lower layer protocols. In some cases, protocols rely on each other for proper operation. A multicast routing protocol relies on the underlying unicast routing protocol for route and path information. In other cases, the protocols operate independently between systems on their layer, but are reliant on the availability of the lower layers. In a Spanning Tree network, a higher layer unicast routing protocol only re-establishes communication after the lower layer (Spanning Tree) has converged.

In all scenarios, the convergence time of all the protocols on the network will vary. Unicast and Multicast protocols have different convergence times.

Spanning Tree convergence times vary depending on what fails and where it fails in the network. This makes it very difficult, if not impossible, to have any type of predictability in the network when changes or failures occur. The more protocols running, the more unpredictability exists.

SPB with IP/SPB provides an integrated model where Layer 2 as well as Layer 3 functionality is provided by one protocol, thus network behavior is very predictable. SPB has eliminated the need to run any form of Spanning Tree, Layer 3 Unicast or Layer 3 Multicast routing in the core of the network, thus increasing efficiency, reducing complexity, and providing predictability.

2.5 Reduce Operational Expenses

Traditional network technologies intertwine the provisioning of connectivity services with the infrastructure that has been put in place to provide the service. This deep interlocking of service with infrastructure as well as the multilayer approach causes complexity to manage today's networks.

In order to scale networks and move to a model that is more like the service provider / carrier, the network infrastructure must be decoupled from the connectivity services. The network must also be able to provide new functionality such as traffic separation, extension of Layer 2 and Layer 3 capabilities, and still be easy to deploy and manage. SPB provides clear separation of the connectivity services layer and the infrastructure. It also uses only one control plane protocol for Layer 2 VLAN and Layer 3 VRF extension services and therefore provides a significantly simplified operational model. This translates directly into a significant reduction in operational expenses.

Section 3: Networking Issues with Today's Technologies

Many issues are commonly seen in today's networks when examining the existing technologies and their challenges to fit the requirements of the virtualized environment. Each of these issues must be reviewed and understood as the enterprise moves forward to tie the application virtualization with the impending network virtualization. The ease of mapping these two together will result in not only the overall success of the enterprise network, but also in the long term scalability and total cost of ownership.

3.1 Service and Infrastructure Separation

A quandary of sorts exists in today's traditional network infrastructure. The difficulty lies in the balance of two seemingly opposing forces; building a network as simple as possible to keep operations cost down while implementing the many different connectivity requirements on that same network. With the existing technologies, more connectivity requirements equal more complexity in design, deployment, and operations.

The major problem that complicates network operations significantly is the limited abstraction of a “network connectivity service” from the infrastructure. The connectivity services and infrastructure configurations are tightly coupled and cannot easily be separated from each other. To illustrate this, a common requirement in the enterprise network is to extend a Layer 2 domain between different end-points. This could be between floors in a building or between buildings on a campus or between data centers across the country. For example, if a VLAN (100) is required to connect two service access points (the point in the network where a server, PC, or other end user device is plugged in), the complete path between these access ports throughout the network, including a redundant path(s), needs to be provisioned with VLAN (100). Even though there are only two service access points (SAP), there will likely be numerous ports, switches, routers throughout the path of the infrastructure that needs to be properly provisioned to accommodate connectivity between those two SAPs.

This simple example shows the difficulty and complexity in design and provisioning when the service and infrastructure are tightly coupled. Many different touch points exist in the network to make this simple Layer 2 extension happen. Ideally, only each service access point should need to be provisioned, thus reducing the configuration down to two places in this example, leaving the entire intermediate touch points to automatically create the shortest path between the SAPs.

The success of the IP protocol can be attributed to this fact; a new IP subnet has to be added only at the service access point, the end-to-end connectivity is established “automatically” by the IP routing protocol. SPB with IP/SPB achieves a similar experience by providing end-point-only provisioning.

3.2 Network Virtualization

3.2.1 Large Layer 2 Domains

Since the mid 1990s (IEEE standardized 802.1Q in 1998) VLAN tagging is the predominant way of virtualizing enterprise networks. With IP being the transport protocol, a one-to-one mapping between VLAN and IP subnet has been established as the defacto standard design. In some cases exceptions exist where business requirements or migrations require features such as IP multi-netting, where multiple IP subnets exist on a single VLAN.

Most applications have used the VLAN concept only to segment into IP subnets to reduce the broadcast domains, improve performance, and ease troubleshooting. Some network applications are looking for true segmentation to restrict access between communication domains. In small topologies, VLANs can fulfill this segmentation requirement nicely, but in larger domains, true segmentation is achieved by virtualizing the Layer 3 domain as well.

Layer 3 device virtualization is achieved by using multiple routing instances known as Virtual Route Forwarder (VRF) technology. With this technology,

VLANs are mapped to different VRF instances which in turn create traffic separation. The next step is to achieve network virtualization by building an IP VPN and extending VRFs across the network.

3.2.2 VRF Extensions

To extend VRFs across a multi-hop network, VRF-extension technology is required. In smaller scenarios this is achieved by running a separate routing protocol for each routing instance (i.e. VRF). This may work for a few network links and a few VRF instances, but the larger the topology the more complex it gets to manage such a network since all switches and all links will have multiple routing instances running in parallel. Presently, carriers have deployed BGP and MPLS-based IP VPN services to accommodate the needs of their enterprise customers. Extending these technologies into the campus and data center can be complex and requires additional skill sets not present in many enterprise network operations teams.

3.2.3 Complexity of MPLS and MP-BGP (RFC 4364)

In networks where hundreds to thousands of customer instances are required, BGP has proven to be a robust protocol to achieve the scalability that is required. BGP is used to carry all virtualized routing tables across TCP sessions between virtualized Provider Edge routers (PEs).

MPLS virtualizes the fast path and thus separates each user domain, by identifying it with a different (service) label. MPLS tunnel labels are swapped at each hop throughout the network and forwarding decisions are made based on local forwarding tables. This makes the management and troubleshooting of the network more tenuous, as each hop must be looked at to figure out the entire path through the network.

This approach to network design works very well for the carrier / service provider as it is very scalable and provides the required functionality. For the typical enterprise customer, the many layers of protocols make the solution quite complex to design, deploy, and operate.

The key point is to provide traffic separation, required scalability, and the ability to troubleshoot without multiple layers of protocols or specialized network expertise.

Figure 1 - MPLS Protocol Layers

3.3 Bridged Domain Issues

As discussed earlier, server virtualization technologies have increased the need for Layer 2 VLAN extensions between SAPs where servers are physically connected. These extensions either within a data center or between data centers have become table stakes requirements.

Whenever VLANs are extended across the core of a network, questions arise in regard to the impact this can have on the stability of the network and especially the core. Typical questions include:

- What is the impact of MAC learning on the core?
- Is there the possibility of loops negatively affecting the network?
- If spanning tree is used for Layer 2 redundancy across the core, what about all these blocked and unused links?

3.3.1 MAC Explosion

MAC table size exhaustion in enterprise networks is usually not an issue. The core systems normally scale well beyond the typical number of MACs within an enterprise. What can become an issue in large spanning tree deployments are excessive topology change notification (TCN) messages. TCNs are sent whenever there is a spanning tree port state change. Each TCN causes all bridges in a STG network to reduce their MAC aging timers, thus traffic is being flooded and paths are re-learnt each time a TCN is sent in its Spanning Tree Group.

The other issue that may arise in large scaled networks is the time it takes a core system to re-learn all the MACs during a recovery. When a failed system is restored to service, the MACs must all be learned, in some cases this can negatively impact recovery time.

Reducing TCN generation and MAC table sizes are good practices when designing bridged topologies.

3.3.2 Loop Sensitivity

VLAN-based Layer 2 networks are sensitive to loops. Network loops can occur due to many different reasons, but the effect is always the same. Broadcast and Multicast traffic looping in the network will quickly exhaust network bandwidth in a matter of seconds. Even worse, the looping traffic triggers the bridges to re-learn the end station MAC addresses from different ports (normal path and looped path). This in turn triggers all devices to be unreachable and at the same time the bridge control planes to constantly update the systems bridge forwarding / filtering tables.

Shielding the network core from the end-station MAC Addresses would make the network core much less sensitive to network loops.

3.3.3 Blocked and Unused Links

A disadvantage of a Spanning Tree based network is that traffic in a VLAN can only travel along one path. This path is the Spanning Tree which is forming the loop-free topology. The result of creating the loop-free topology renders several links blocked and therefore unused in normal operations. These blocked links are only used during times of failure in that particular portion of the network. Enterprises are paying a 100% premium for links that may only be used 1% of the time – not a great use of valuable CAPEX.

Spanning Tree is root bridge-based, thus traffic will have to flow potentially from the tree leaf up to the root bridge to reach another leaf in the network. The actual paths through the network can be engineered by setting up multiple Spanning Tree groups, but this once again adds another layer of complexity during design, deployment, and operations.

The optimal model is one that makes efficient use of all network links while still providing resiliency and fast failover. It must also provide optimal (shortest) paths between end points to increase performance and minimize latency.

3.4 Storage and Data Center Bridging

Fibre Channel transport over Ethernet is presently a popular topic in enterprise data center environments. The T11 working group has defined FCoE as a technology to replace native Fibre Channel with Ethernet. The long term vision will have storage traffic as well as user bound LAN traffic converge on one technology. This will reduce both CAPEX and OPEX with a reduction in the number of networks, network adapters, and management.

In order to properly support storage traffic running on Ethernet, new enhancements must be added to address existing deficiencies:

- Today's Ethernet is not lossless

  The IEEE is addressing this with the following standards work in the data center bridging working group:

  - **P802.1Qau:** IEEE Standard for Local and Metropolitan Area Networks: Virtual Bridged Local Area Networks - Amendment 10: Congestion Notification.
  - **P802.1Qaz:** IEEE Standard for Local and Metropolitan Area Networks: Virtual Bridged Local Area Networks - Amendment: Enhanced Transmission Selection.
  - **P802.1Qbb:** IEEE Standard for Local and Metropolitan Area Networks: Virtual Bridged Local Area Networks - Amendment: Priority-based Flow Control.

- Today's Ethernet does not provide shortest path switching

As previously discussed, Spanning Tree-based Layer 2 topologies use root tree based forwarding. This results in suboptimal packet forwarding and traffic

rarely uses the shortest path to reach its destination. Storage traffic however requires low latency and minimal forwarding hops, thus benefits greatly from a solution that can provide shortest path switching.

Section 4: SPB Solution Details

4.1 Virtualization Standards Evolution

The IEEE has been working on Layer 2 virtualization techniques over the last decade. It had standardized a set of solutions that built on each other and continuously addressed the predecessor's disadvantages.

Standard	Year	Name	Loop free by using:	Service ID's	Provisioning	Virtualization of:
IEEE 802.1Q	1998	Virtual LANs (VLAN Tagging)	Spanning Tree or Switch Clustering	4096	Edge and Core	Layer 2
IEEE 802.1ad	2005	Provider Bridging (Q-in-Q)	Spanning Tree or Switch Clustering	4096x4096	Edge and Core	Layer 2
IEEE 802.1ah	2008	Provider Backbone Bridging MAC-in-MAC	Spanning Tree or Switch Clustering	16 million	Edge and Core	Layer 2

In 1998, IEEE 802.1Q provided a simple way to virtualize Layer 2 broadcast domains by using VLAN tagging to form Virtual LANs. The 12 bits that are available in the 802.1Q defined header provided the ability to separately transport 4096 individual virtual LANs.

The loop free topology had been provided through IEEE 802.1D Spanning Tree and later Rapid Spanning Tree (RSTP) and Multiple Spanning Tree (MSTP) extensions. However, spanning tree is not the technology of choice for large carrier deployments or data center deployments – for details see Section 0.

Avaya introduced Switch Clustering using Split Multi-Link Trunking as a better alternative to spanning tree. Switch Clustering's built-in ability to build large loop free topologies that provided active/active resiliency with sub-second failover proved to be a far superior technology in comparison to all the Spanning Tree options.

Carrier deployments wanted to leverage the cost points of Ethernet and wanted to use the virtual LAN technology. In order to improve scalability, the IEEE introduced the Q-in-Q approach, where the header had been extended to provide a carrier tag attached to a customer tag Q-in-Q. This allowed the carrier to transport customer tagged traffic over its Ethernet based 802.1ad backbone. However in large deployments this technology did not scale well,

because the carrier network "saw" the customer MAC addresses. This restricted the carriers in providing a truly robust network solution. For details please refer to Section 0.

In order to overcome this scaling limitation, the IEEE standardized 802.1ah in 2008 which introduced a new header encapsulation to hide the customer MAC Addresses in a backbone MAC Address pair.

In addition to this, the new header also includes a service instance identifier (I-SID) with a length of 24 bits. This I-SID can be used to identify any virtualized traffic across an 802.1ah encapsulated frame. In 802.1ah, these I-SIDs are used to virtualize VLANs across an I-SID-based MAC-in-MAC network. The "hiding/ encapsulating" of customer MAC Addresses in backbone MAC Addresses greatly improves network scalability (no end-user MAC learning required in backbone) and also significantly improves network robustness. This is due to the fact that any customer introduced network loops have no effect on the backbone infrastructure.

4.2 The SPB Model

A recognition of the existing limitations for network virtualization led to the development of a new link-stated based technology known as Provider Link State Bridging (PLSB). Based on IS-IS 2008 and a natural evolution of PBB/PBT, PLSB addressed the growing needs in regard to network virtualization. This technology was introduced into the IEEE standards body and now known as 802.1aq Shortest Path Bridging MAC-in-MAC (SPBM).

Standard	Year	Name	Loop free by using:	Service ID's	Provisioning	Virtualization of:
IEEE 802.1aq	2012	Shortest Path Bridging (SPBM)	Link State protocol (IS-IS)	16 million	Only service access points	IEEE: Layer 2 IETF draft: Layer 3 Unicast & Multicast

SPBM is based on the 802.1ah encapsulation schema that does not depend on Spanning Tree to provide a loop free Layer 2 domain, but instead uses the nodal based IS-IS topology protocol. The IEEE is reworking the Spanning Tree specifications 802.1D to include the new SPB solution. The intention is that once the standard is implemented in network products, the network operator will be able to choose a shortest path bridging topology protocol or the legacy root tree-based option.

One of the key advantages of the SPBM protocol is the fact that network virtualization provisioning is achieved by just configuring the edge of the network (service access points), thus the intrusive core provisioning that other Layer 2 virtualization technologies require (including 802.1Q – VLAN tagging) is not needed when new connectivity services are added to an SPBM network. For

example, when new virtual server instances are created and need their own VLAN instance, they are provisioned at the network edge only and don't need to be configured throughout the rest of the network infrastructure.

This "edge-only" provisioning model provides a far faster time-to-service on the network side compared to the traditional edge and core provisioning. This is key in order for the network to match the speed improvement of new service instantiations (applications) on virtualized servers.

In addition to the Layer 2 virtualization support that SPB provides, the model is being extended to also support Layer 3 virtualization. A more detailed discussion is provided later in this document.

The boundary between the MAC-in-MAC SPB domain and 802.1Q domain is handled by the Backbone Edge Bridges (BEBs). At the BEBs, VLANs are mapped into I-SIDs based on the local service provisioning. Redundant connectivity between the VLAN domain and the SPB infrastructure is achieved by operating two SPB switches in Switch Clustering (SMLT).mode. This allows the dual homing of any traditional link aggregation capable device into a SPB network. IEEE also introduced a seamless redundant connection between SPB and Spanning Tree domains as part of the combined Spanning Tree / SPB standard.

4.3 Frame format

SPBM's frame format is based on the packet header that is described in IEEE 802.1ah.

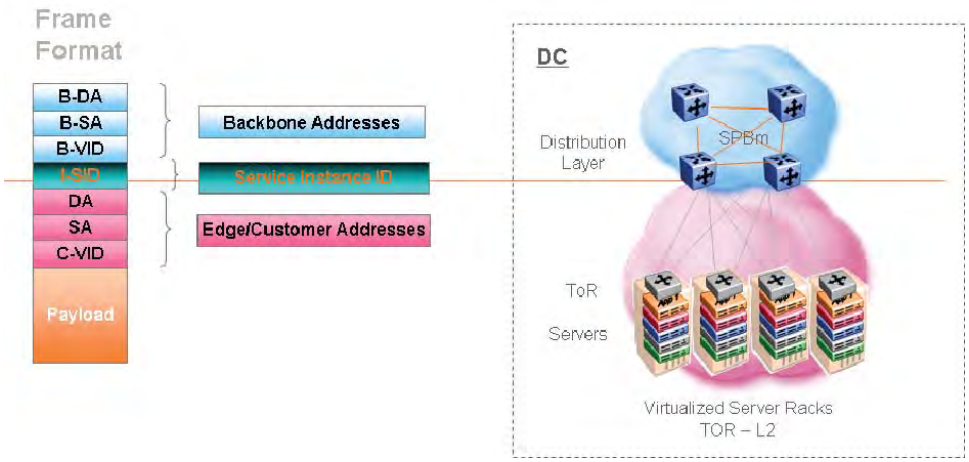


Figure 2 - 802.1ah Frame Format

The blue backbone encapsulation is "hiding" the edge/customer MAC Addresses, thus improving network stability as discussed previously in section 3.3.

4.4 Protocol Infrastructure

Example network topology to run SPB protocol:

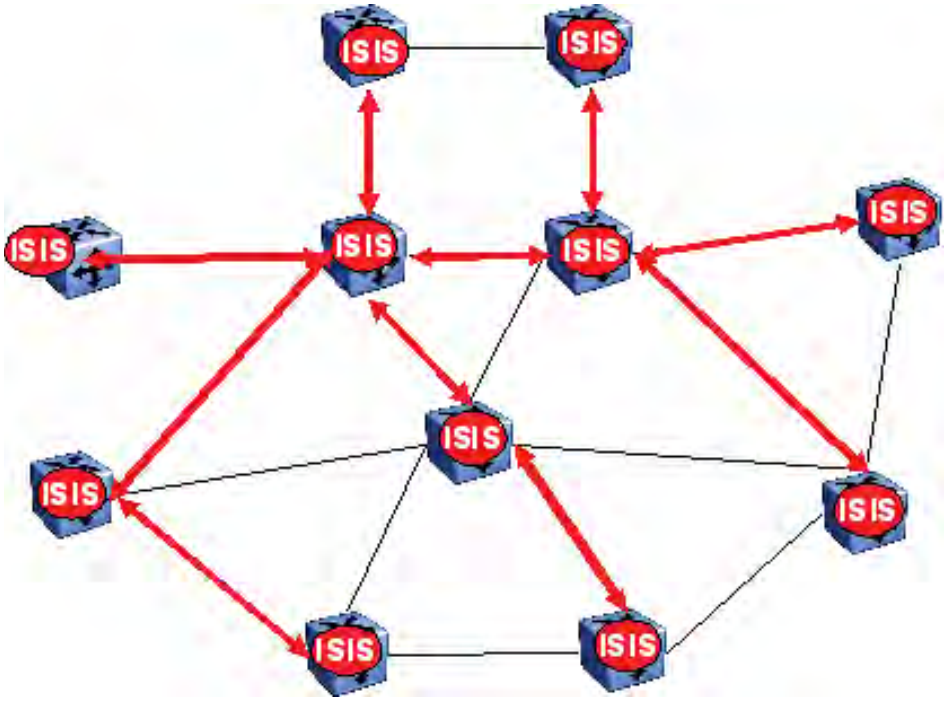


Figure 3 - SPB Topology Discovery

1. Discover network topology

Before calculating the shortest path trees, the network topology needs to be discovered. IS-IS, a natural Layer 2 routing protocol, runs on all nodes of the SPB domain. Through the link-based IS-IS protocol, session topology information is exchanged (similar to OSPF). Each node has a node ID which is used in the topology announcement. Also, each node has one Backbone MAC address (BMAC) which is used as source- respectively destination MAC Address to send traffic to this node across an SPB network.

2. IS-IS nodes automatically build trees from itself to all nodes

As soon as the network topology is discovered and stored in the IS-IS link state database (LSDB), each node calculates shortest path trees based on preconfigured link-metrics for each source node.

Important Properties

- Shortest path tree based on link metrics
- No blocked links
- RPFC to eliminate loops
- Symmetric data path between any two nodes provides closed OAM system
- Unicast path now exists from every node to every other node

3. Uses IS-IS to advertise new service communities of interest

When a new service is provisioned, its membership is flooded throughout the topology with an IS-IS advertisement.

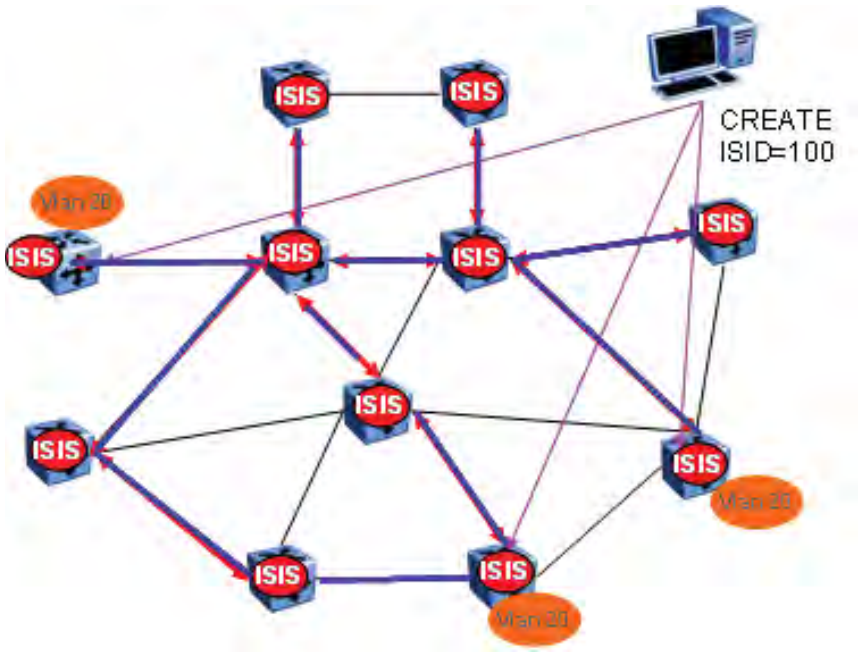


Figure 4 - SPB ISID advertisement

BMAC and ISID information is flooded throughout the network to announce new ISID memberships. In this case VLAN 20 is mapped to ISID 100.

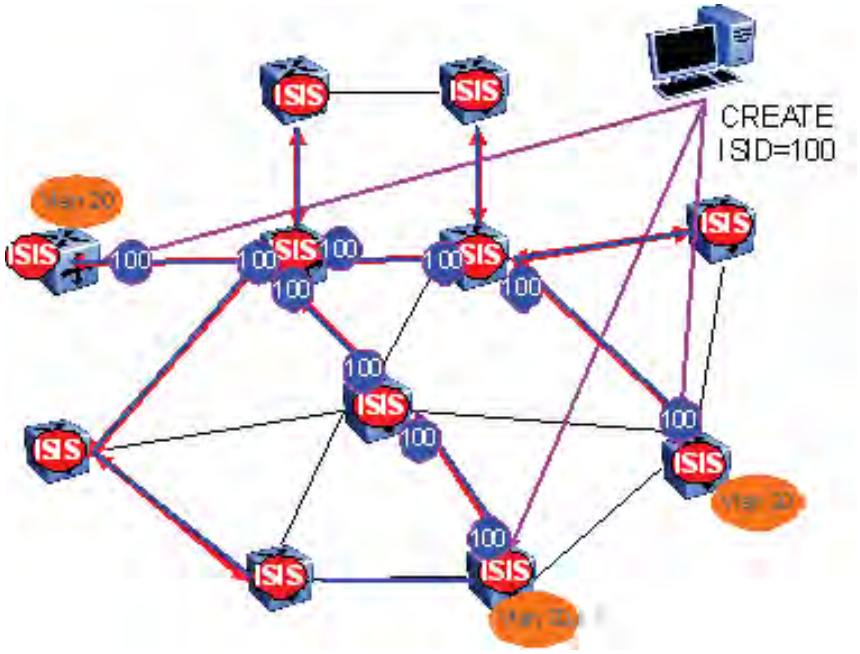


Figure 5 - SPB BMAC/ISID population

Each node populates its FDB with the BMAC information derived from the IS-IS shortest path tree calculations. Thus there is no traditional flooding and learning mechanism in place for the BVLAN, but FDBs are only programmed by the IS-IS protocol.

4. When nodes receive notice of a new service AND they are on the shortest path, update FDB

In this scenario, where there are three source nodes having a membership on ISID 100, there are three shortest path trees calculated (not counting the Equal Cost Trees (ECTs)). The following diagrams depict the traffic flow for this formed ELAN.

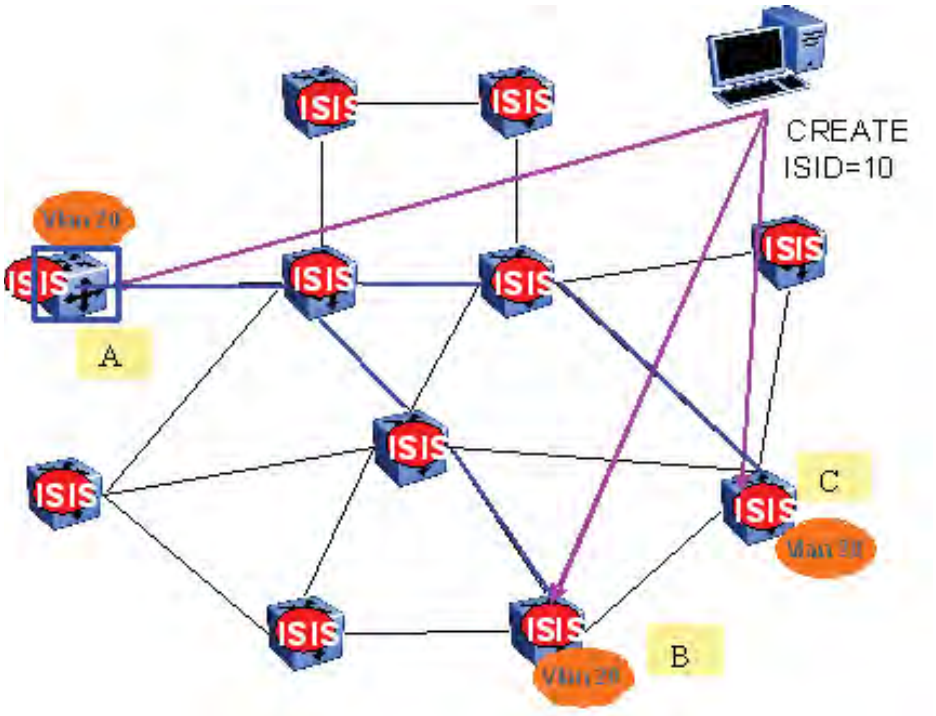


Figure 6 - Shortest Path Tree for Source Node A

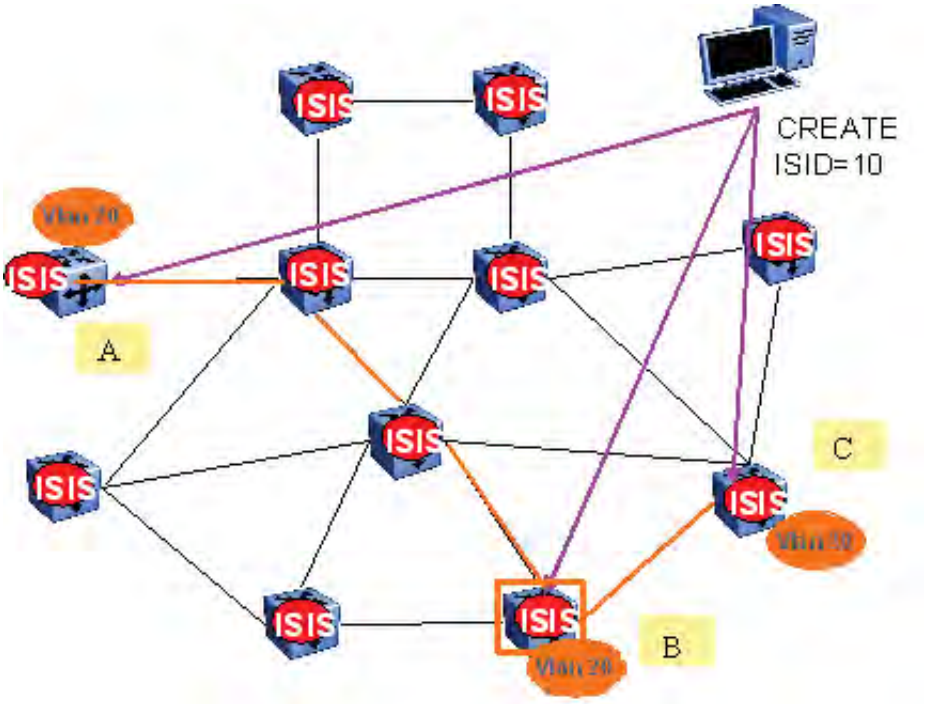


Figure 7 - Shortest Path Tree for Source Node B

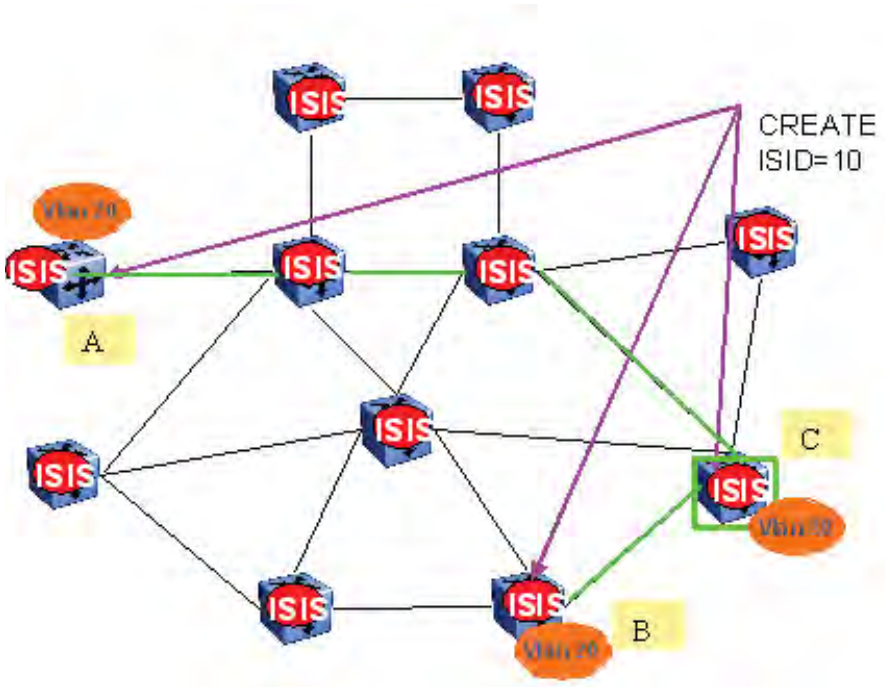


Figure 8 - Shortest Path Tree for Source Node C

The paths between any two nodes are always the shortest paths. Also, the paths in either direction are congruent, thus a bidirectional communication stream can be monitored easily by mirroring ingress and egress on a link to a network analyzer. (As a comparison, the same is true for Spanning Tree based networks, but not true for TRILL- based networks).

VLAN traffic arriving on switch A and VLAN 20 is forwarded following the blue path, traffic arriving on switch B and VLAN 20 the orange path and on switch C VLAN 20 traffic is following the green path. If the destination CMAC is unknown at the SPB ingress node or the traffic is of type broadcast or multicast, then it is flooded to all members of the topology which spans VLAN 20. If the destination CMAC is already known, then the traffic is only forwarded as a unicast to the appropriate destination. In the SPB domain, the traffic is switched on the BMAC header only. The bridge filtering database (FDB) at the VLAN to ISID boundary (backbone edge bridge BEB), maintains a mapping between CMACs and corresponding BMACs. E.g. Switch B learns all CMACs which are on VLAN 20 connected to switch A with the BMAC of A in its FDB and the CMACs which are behind C are learnt with the BMAC of C.

4.5 Service Layer QoS

Quality of Service (QoS) is maintained in a SPB network the same way any IEEE based 802.1Q network is operated. Traffic ingressing a SPB domain which is either already 802.1p bit marked (CMAC), or is being marked by an ingress policy (remarking), is getting its BMAC p-bits marked to the appropriate value. The traffic in a SPB core is scheduled, prioritized and forwarded according to the 802.1p values. In the case where traffic is being routed at any of the SPB nodes, the IP DSCP values are taken into account as well.

Future enhancements to SPB will allow explicit paths through a SPB domain to be predefined. This provides the ability to setup traffic engineered paths through a network, avoiding congested nodes.

4.6 Forwarding Behavior and Security

The following example illustrates the differences between SPB's forwarding behavior and that of MPLS.

Traffic ingressing a SPB domain is forwarded across the backbone by using the Destination BMAC as the tunnel label. The I-SID is then used at the egress node to define which virtualization entity this particular flow belongs to (VLAN, VR, IP MC stream).

In contrary to MPLS, neither BMAC nor I-SIDs are changed throughout the journey of the packet through the backbone. SPB's advantage here is that the intermediate nodes don't need to stitch two identifiers together, which MPLS requires on each node due to its LSP swapping technique. In a potential MPLS Label Distribution Protocol (LDP) error potentially two LSPs are connected together, which don't belong together, as a result this could lead to a security leak in MPLS.

Both technologies employ the use of a tunnel and a service label to separate flows from each other.

4.7 Layer 2 VLAN Extensions

The main application of the standards based SPB solution is to provide robust and scalable VLAN extension across an Ethernet switched network infrastructure. Its shortest path bridging capabilities makes it a powerful replacement for today's spanning tree based solutions. As earlier pointed out, the great improvement in simplicity is achieved by the service access point provisioning model, thus leaving a network core to be a true core without having to worry about new connectivity service being added at the edge.

4.8 Failure and Recovery

Link and nodal failure in a SPB network trigger an IS-IS link state update. Only the nodes that are part of the network affected are recalculating the topology and update their forwarding entries. In typical enterprise networks, a restoration after a failure can be expected within one second to occur. Key to this fast restoration is that a link failure can be detected as quickly as possible. For this either the IEEE based link failure detection 802.1ag (CFM) should be used or similar detection mechanism such as VLACP.

4.9 Scalability

The solution is built for hundreds of SPB nodes running hundreds of services (-ISIDs) throughout the network. While the standard allows addressing 16 million service entries, the nodal limitation is set to 4000 initially.

4.10 Routing Between Extended VLANs

A functionality which is commonly used in traditional 802.1Q environments is the ability to route traffic between VLANs. This capability is also provided in a SPB environment by enabling InterR-ISID routing. This allows the network to use SPB nodes as default gateways/routers for extended VLANs without having to terminate the I-SID at an edge node. This is particularly interesting in a data center deployment where the top of the rack devices are also SPB capable, but are purely Layer 2 devices. In this scenario, the first routing hop is provided at the aggregation layer which exists deeper into the network.

4.11 SPB and Edge Connectivity with Switch Clustering

As earlier described, the boundary between the MAC-in-MAC SPB domain and 802.1Q domain is handled by the Backbone Edge Bridges (BEBs). At the BEBs, VLANs are mapped into I-SIDs based on the local service provisioning. Redundant connectivity between the VLAN domain and the SPB infrastructure is achieved by operating two SPB switches in Switch Clustering (SMLT) mode. This allows dual homing of any traditional link aggregation capable device into a SPB network.

4.12 Layer 3 VRF Extensions

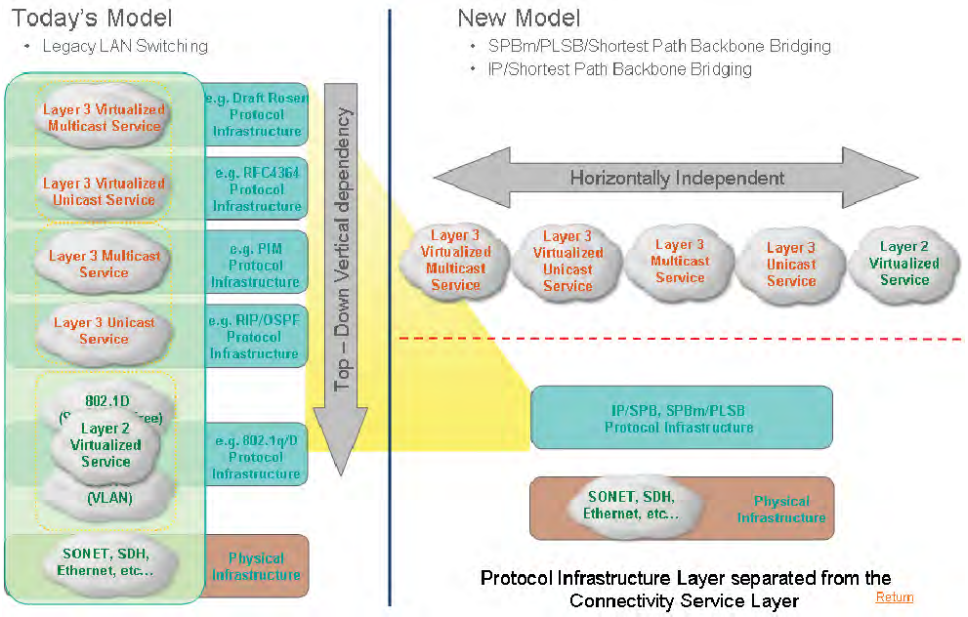
Whether it is an airport authority supporting multiple airlines on its infrastructure or a government IT department in charge of supporting various

clients (such as administration, police, education), they have all in common that they want to provide traffic separation on top of one shared network infrastructure. Typically these deployments start with VRF separation, but in most cases those VRFs need to be extended across the network infrastructure.

MPLS-based IP VPNs can be used to provide Layer 3 virtualization support. However the target applications of MPLS based IP VPNs are large scale carrier deployments, for enterprise network operations teams, the layers of complex protocols are a big hurdle for using it.

Draft IP/SPB-Unbehagen describes an extension to SPB that leverages IS-IS to not only build Layer 2 domains, but also provide a very flexible Layer 3 VRF extension capability. This integrated model approach does not require any additional protocol to support Layer 3 virtualization. Typically Layer 3 VRFs can now be provided at any SPB node in the network in parallel to the Layer 2 VLAN extension solution. IS-IS carries the VRF specific route entries in its link state updates. The I-SID is used in this model to provide VRF separation.

4.13 Network Simplification by Protocol Overlay Reduction



SPB simplifies network operation by removing a set of overlay protocols and collapsing them into one link state based protocol: IS-IS. At the same time, it achieves true separation between infrastructure and service layer by leveraging the service ID concept (I-SID). With the inclusion of IP/SPB into the SPB protocol simplified provisioning and operation for Layer 2 and Layer 2 Unicast and Multicast virtualization is achieved. Due to the service separation by I-SID, there is no dependency of SPB virtualized services among themselves occurring. Compared to the traditional model true OPEX savings can be expected due to the protocol simplification.

Section 5: Value Proposition Summary

SBP enables enterprises to improve the delivery of always-on content and simplify the deployment of the private cloud. It is an open, standards-based approach that offers increased reliability, a reduction in time to service from days/months to minutes, better utilization of network resources (no need for blocked ports), and greatly improved manageability and network uptime when compared to alternative models.

With its applicability to both data center and campus applications, SPB delivers a consistent enterprise-wide model for delivering highly resilient access to applications and services with light-touch provisioning. Customers don't have to interconnect differing forms of technology, one for the data center and others for the campus and MAN/WAN - our architecture is truly end-to-end. And crucially SPB can be deployed over any type of network architecture whether it's a ring, full mesh, square etc and can be enabled in parallel with all other protocols presently in use on the network. There is no need to change physical connections or existing configurations; you can migrate to SBP at your pace in the most non-disruptive manner possible.

- The benefits of on Shortest Path Bridging solution:
- Avaya's Enhanced SPB not only supports L2 virtualization (E-Line and E-LAN services) but also L3 virtualization.
- End-to-end secure traffic separation: Unlike legacy VPN models, with SPB traffic is not recombined into shared networks within the core.
- Rapid Time to service: a VLAN/VRF extension across the network can be established in no time due to the simple end point provisioning and automatic connectivity establishment.
- Robust Infrastructure and increased network uptime: The link state based infrastructure protocol provides quick failure recovery.
- Dual-homing: Traditional Switches can be attached to the SPB cloud redundantly using Switch Clustering.
- Separation between service and infrastructure: Adding new infrastructure (links, switches), does not require to have knowledge of the services that run on top of the network, as well as any kind of topology is supported, thus network operations and design flexibility is greatly improved compared to traditional networking.
- Smooth migration from traditional networking to SPB based virtualization for both data center and multi-tenant campus requirements.

In summary, with Avaya's Enhanced SPB, enterprises will have the agility and flexibility that they seek of their networking infrastructure. As the pace of change increases and the desire to embrace new enabling application grows, enterprises will have a truly dynamic networking environment, free of the old-world constraints and limitations.

Section 6: Deployment Scenarios

6.1 The Virtualized Data Center

6.1.1 The Requirement

This section depicts a typical larger enterprise network with a backbone (core) and multiple (two) datacenters. The rest of the network (user aggregation) is omitted to simplify the drawings. In this scenario the datacenters are being virtualized with compute virtualization technology such as VMware's ESX infrastructure or a similar technology (e.g. Microsoft Hypervisor). One of the most used functionalities of virtualized server environments is the capability of moving virtual server instances from physical server to another physical server. These servers can reside locally in the same data center, or they can be on a remote location across the backbone infrastructure. In both cases, in order to move and access the server instances the IP subnet, where the server reside on, needs to be extended to the new physical location. This is because the servers retain their IP address even after a move to a new location. Since there is a "one-to-one" mapping between IP subnet and VLAN, the VLAN (broadcast domain) needs to be extended to the new location server location.

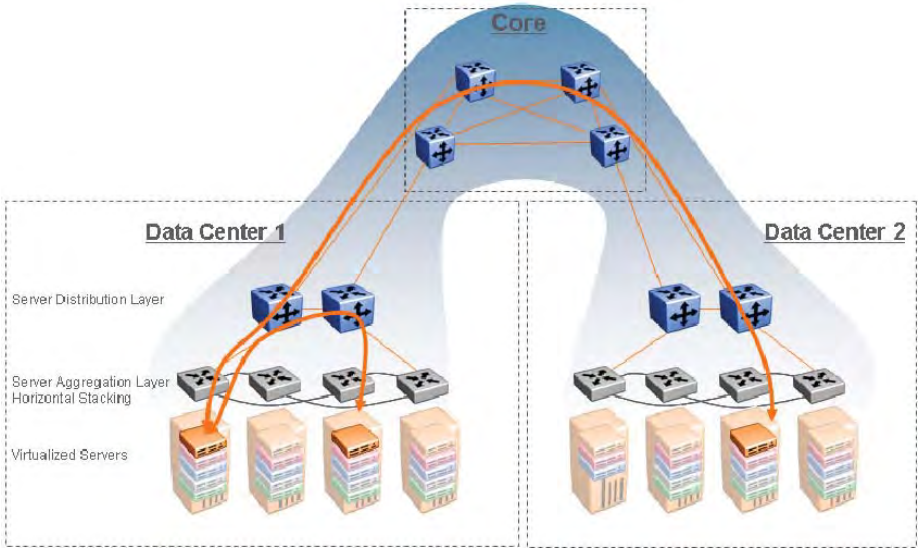


Figure 9 - Data Center Virtualization

This figure depicts the extended VLAN/IP subnet (broadcast domain).

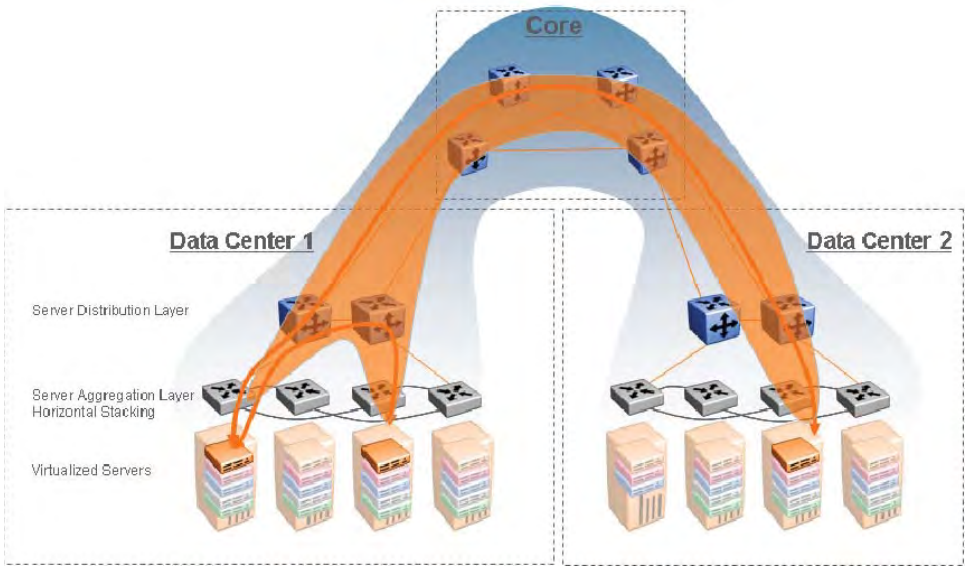


Figure 10 - Extended VLAN

6.1.2 The Solution

The following section explains in a few steps how SPB can be leveraged to enable server move and it also outlines the great benefits SPB provides.

The following picture shows the network infrastructure as well as the virtualized servers, which are connected to ToR switches. The ToR devices can be built as a Horizontal Stack, or they can be dual-homed (Switch Clustering) to the data center server aggregation switches. The SPB infrastructure has been put in place and spans all routing switches. In this example the virtual servers which are to be moved from one physical server to another are on VLAN10 which corresponds to IP subnet 10.10.10.0.

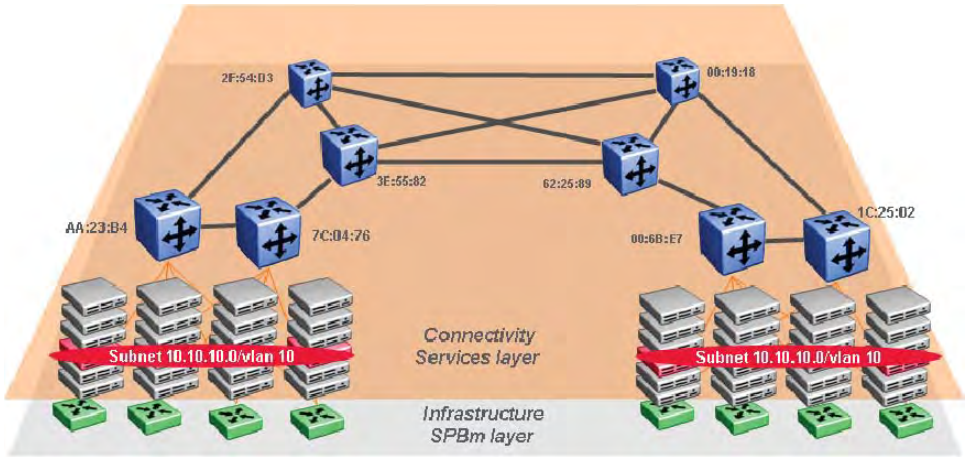


Figure 11 - Data Center Infrastructure and Service Layer

In order to be able to move the virtual server transparently from one physical server to another physical server, the VLAN/IP subnet needs to span across the network.

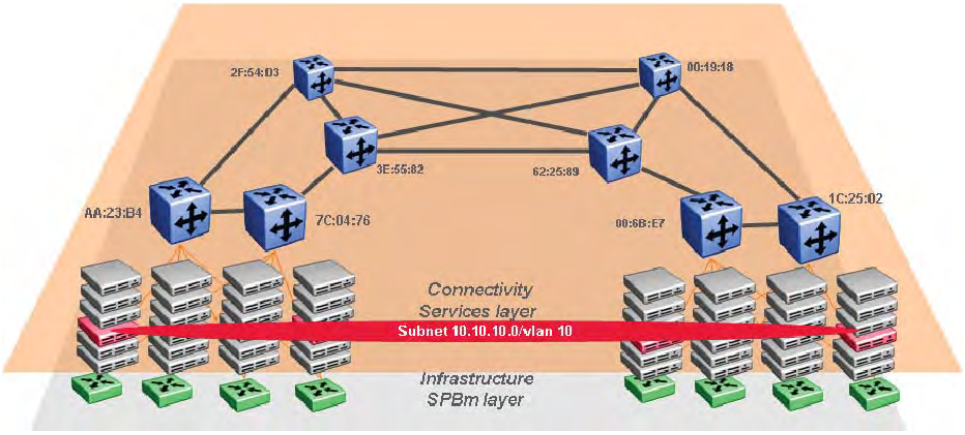


Figure 12 - Extended Subnet

Traditionally this would have been done by configuring a VLAN across the network. Due to the earlier discussed issues, a more robust solution which fulfills the additional requirements should be chosen.

SPB allows spanning VLAN10 from one location to another by binding the VLAN10 at the first SPB-capable node to an I-SID (I-SID 100). The network then automatically connects all the VLAN access points together using ISID 100. The network administrator only configures the service access points.

Dual-homing of user VLANs is also supported using the Switch Clustering technology.

Integration of SPB into existing networks

It is important to note, that a SPB protocol infrastructure can be put in place without having to change the existing protocol infrastructure. Most Ethernet based networks use 802.1Q tagged interfaces between the routing switches. SPB requires a couple of Backbone VLANs (BVLANs) which are used as the transport instance. A BVLAN is not a tranditional VLAN in the sense that it does not flood Unknown and Broadcast/Multicast traffic, but only forwards based on IS-IS provisioned backbone MAC tables. Once the BVLANs are configured and the IS-IS protocol is operational the services can be mapped to service instances. For migration purposes the user/server VLANs can be moved from the traditional transport to the SPB based transport, one VLAN at the time, enabling a smooth migration.

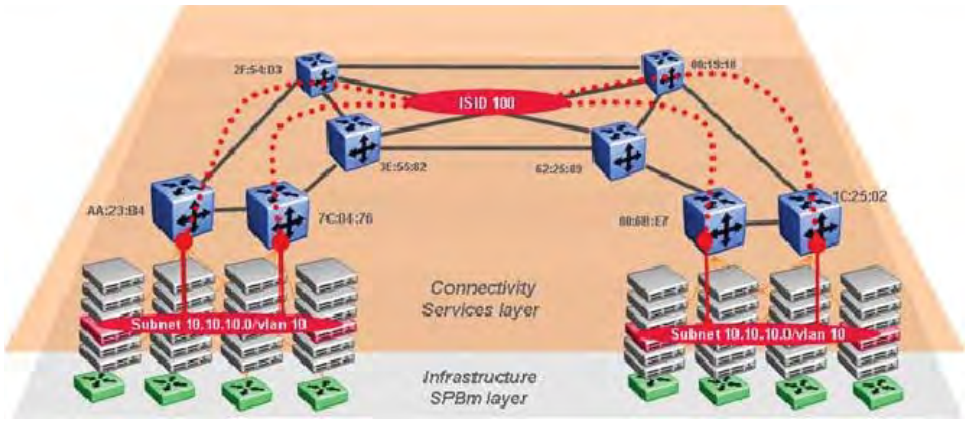


Figure 13 - SBPm VLAN to ISID Mappings

In most scenarios, those IP subnets need to provide an IP routing connection to the rest of the network. The so-called Inter-I-SID routing functionality provides an implicit routing capability on SPB nodes, that allows connecting a routing interface to an I-SID, thus packets are routed directly from I-SID to I-SID without having to be externally looped back to a VLAN-router.

This capability simplifies network topologies and saves cost.

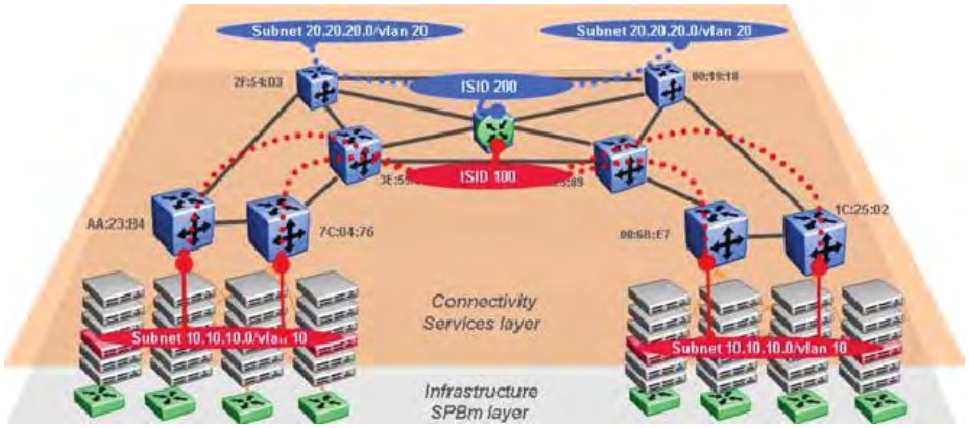


Figure 14 - SPB Inter-I-SID Routing

Summary of benefits:

- Full support for server virtualization technologies: SPB enables easy “moves” of server instances across the network infrastructure.
- Rapid Time to service: a VLAN/IP subnet extension across the network can be established in no time due to the simple end point provisioning and automatic connectivity establishment.
- Robust Infrastructure and increased network uptime: The link state based infrastructure protocol provides quick failure recovery.

- Smooth migration from traditional networking to SPB based virtualization support
- Dual-homing: Traditional Switches can be attached to the SPB cloud redundantly using Switch Clustering.
- Avaya's SPB not only supports L2 virtualization with SPB but also L3 virtualization.
- Separation between service and infrastructure: Adding new infrastructure (links, switches), does not require to have knowledge of the services that run on top of the network, as well as any kind of topology is supported, thus network operations and design flexibility is greatly improved compared to traditional networking.

6.2 Deployment Scenario: MultiTenant City Network

6.2.1 The Scenario

This section depicts an example of a city network which is providing connectivity services to multiple tenants including: education, administration, government, fire, and police. The tenants are spread across a metro region and are all operated by one network administration. The city operates two data centers, which are using server virtualization techniques that require transparent connectivity between the data centers.

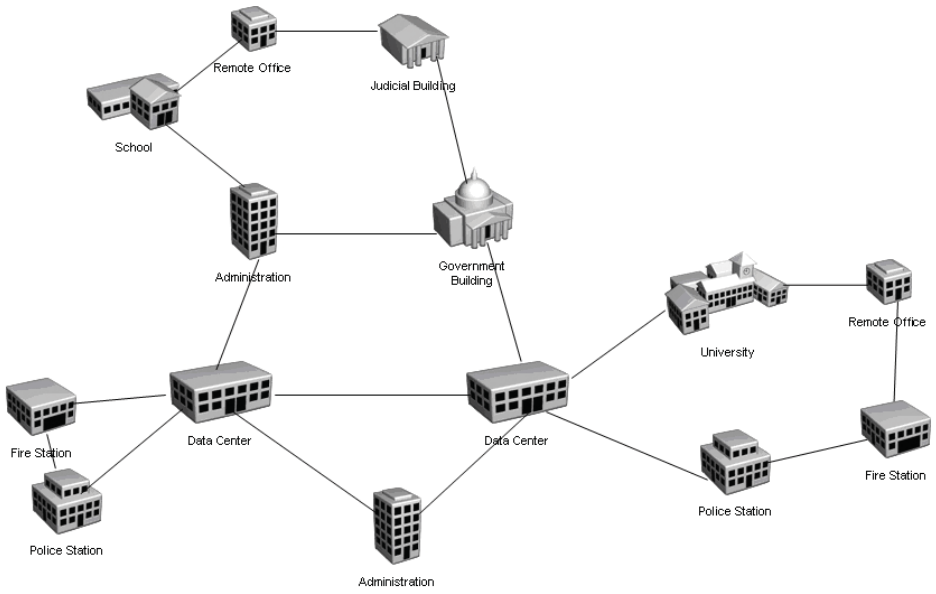


Figure 15 - City Network with Several Departments

6.2.2 Secure network domains

All departments share one backbone infrastructure, but the departments are all operating in their own secure domain. There shall not be any communication between departments without traversing dedicated firewalls which are located in the data centers.

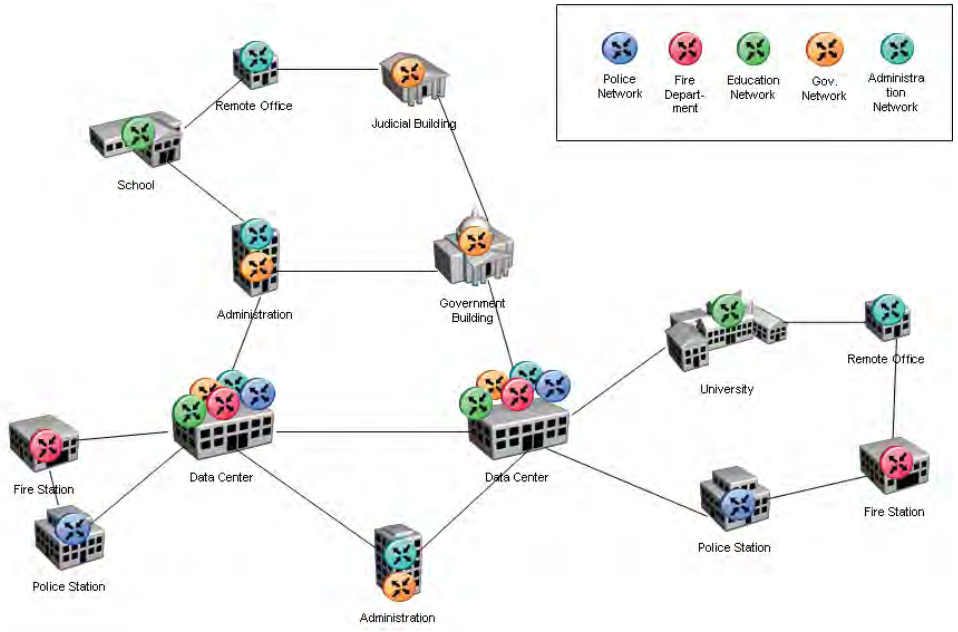


Figure 16 - Secure Domains and their Network Distribution

6.2.3 Core Network – Physical Layout

The blue nodes are SPB capable routing switches which are connected through any type of Ethernet connection.

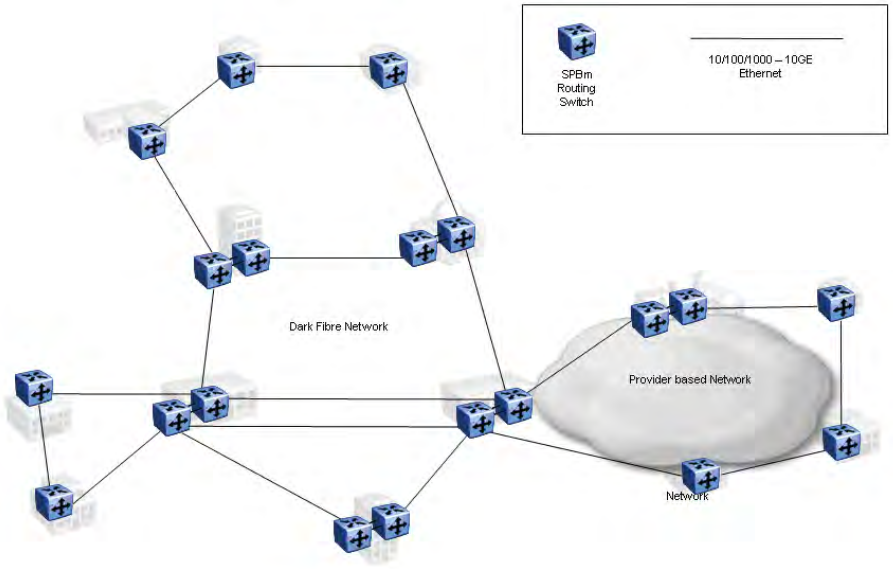


Figure 17 - Physical Layer

The Ethernet can be run over dark fiber, copper, transparent LAN service, carrier E-Line service, CWDM, or DWDM; any type of bridged Ethernet connection as long as the max packet size supports the MAC-in MAC-frames.

The SPB nodes are connected through a set of backbone VLANs (BVLANs), which don't operate in normal bridging mode, but rather have flooding and learning disabled. The SPB-I-SIS protocol is managing the Bridge Filtering Databases (FDBs). One instance of IS-IS is running on all nodes and is responsible for topology discovery as well as virtual network orchestration.

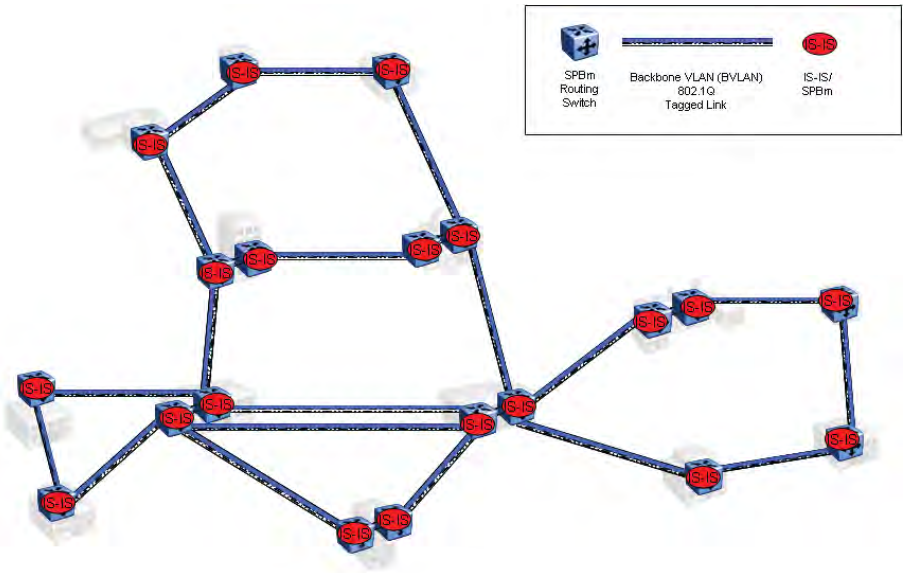


Figure 18 - SPB Protocol Layer

6.2.4 VLAN Extensions

Some of the departments may need to provide Layer 2 extensions across the backbone. SPB provides E-Line point-to-point and E-LAN (any-to-any) connections. Data center bridged connections are frequently required to enable functionalities such as Vmotion from VMware, where server instances can be moved dynamically from one data center to the other. SPB provides a robust and resilient solution for this.

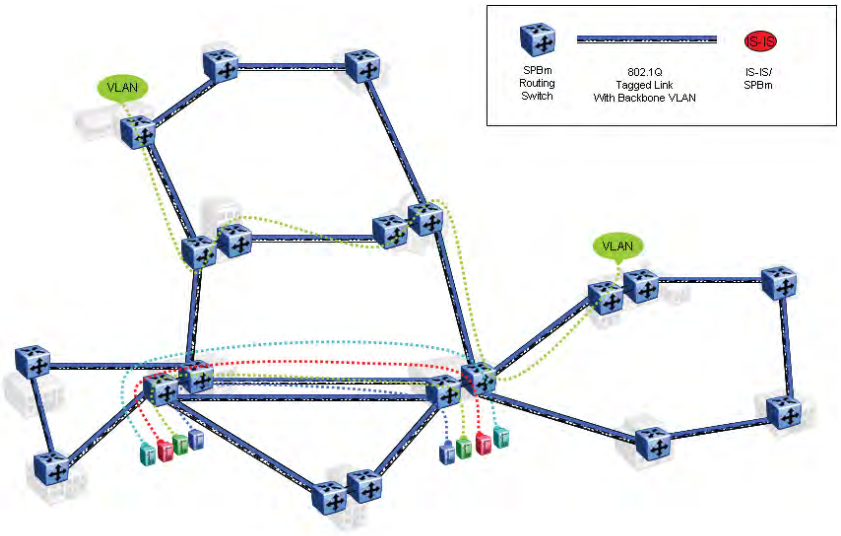


Figure 19 - VLAN Extensions

6.2.5 VRF Extensions

Virtualizing Layer 3 leverages the Virtual Route Forwarder functionality on routing switches. In order to "connect" department specific VRFs across the network, they are assigned to service instances (I-SIDs). IP/SPB then exchanges the VRF specific routing tables automatically and the traffic is forwarded along the VRF-I-SID.

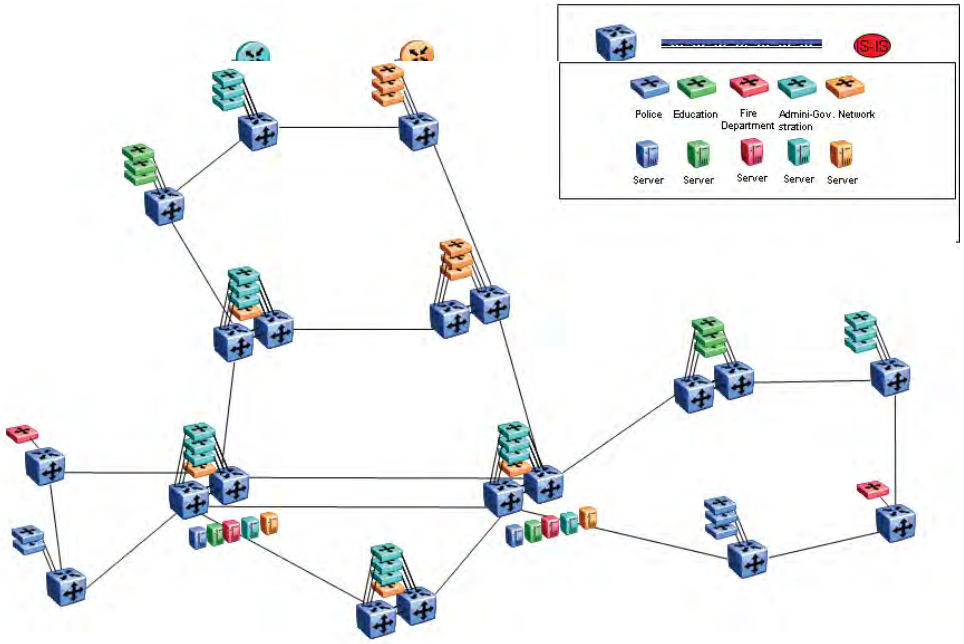


Figure 21 - Access Network

6.2.6 Dual homing access network to SPB backbone

Dual homing of the access network to SPB backbone switches is provided by using the Split Multi-Link Trunking connections directly into the SPB cloud. At the SPB Edge node, VLANs and VRFs are mapped to service instances (I-SIDs). The solution provides a resilient and robust connection into the core.

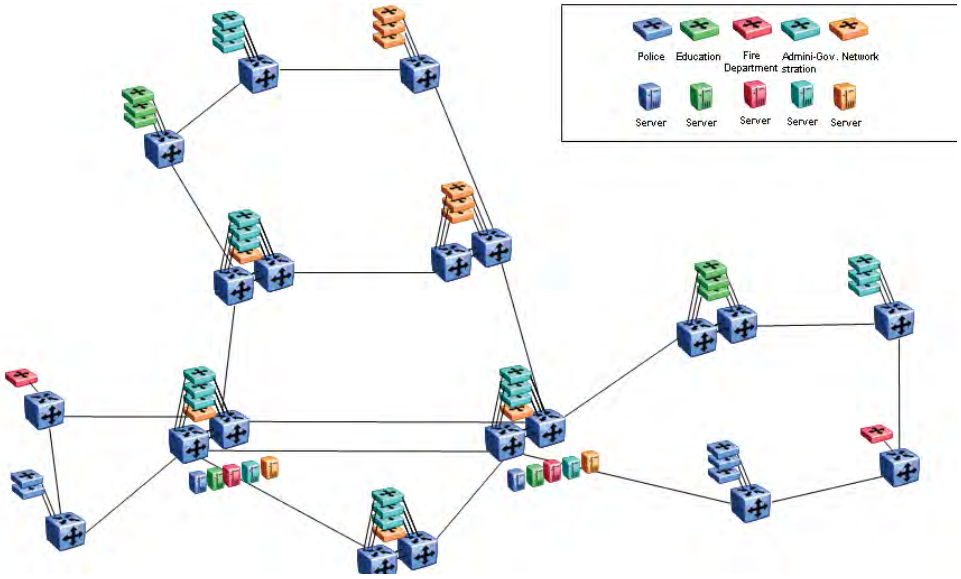


Figure 22 - Dual Homing of Access Switches into SPB Nodes

Traffic ingressing on the grey VLAN is mapped at the SPB node into I-SIDs 100/101 and switched across the SPB core to the destination.

Traffic ingressing on the blue or orange VLAN is routed on the blue or orange VRF, as appropriate, and switched across the SPB network to it's destination on I-SIDs 20x/30x.

VRRP or RSMLT can be used to provide default gateway redundancy.

Traffic on the blue or orange VLAN which is not targeted to be routed by the default gateway can be bridged across the SPB cloud as well (not shown, I-SIDs would have to be assigned to VLAN blue and orange directly in addition to the VRFs.)

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

Section 7: References

7.1 IEEE

- **802.1D** (2004) - MAC Bridges
- **802.1p** - Traffic Class Expediting and Dynamic Multicast Filtering (published in 802.1D-1998)
- **802.1Q** - Virtual LANs
- **802.1s** - Multiple Spanning Trees
- **802.1w** - Rapid Reconfiguration of Spanning Tree
- **802.1ag** - Connectivity Fault Management
- **802.1ah** - Provider Backbone Bridges
- **802.1aq** - Shortest Path Bridging

7.2 IETF

- IP/SPB-IP VPNs: **http://tools.ietf.org/html/draft-unbehagen-spbb-ip-ipvpn-00**

For any comments, edits, corrections, or general feedback, please contact Roger Lapuh (rogerlapuh@avaya.com) or Dan DeBacker (**ddebacke@avaya.com**).

Acronym Key

Throughout this guide the following acronyms will be used:

BEB: Backbone Edge Bridge (Edge node in a SPB network)

BMAC: Backbone Media Access Control Address

DCB: Data Center Bridging

ECT: Equal Cost Tree

ELAN: Emulated Local Area Network

I-SID: SPB Service ID

IS-IS: Intermediate system to intermediate system Routing Protocol

IP/SPB: IP Shortest Path Bridging

SMLT: Split Multi-Link Trunking

RSMLT: Routed Split Multi-Link Trunking

SPB: Shortest Path Bridging

SPBM: Shortest Path Bridging - MAC-in-MAC

MPLS: Multi Protocol Label Switching

NIC: Network Interface Card

PBB: Provider Backbone Bridging

PBT: Provider Backbone Transport

PLSB: Provider Link State Bridging

VLAN: Virtual Local Area Network

VRF: Virtual Route Forwarder

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
02/13 • DN4469-04

AVAYA
The Power of We™

Video Surveillance – IP Multicast over Avaya Fabric Connect

IP Video Surveillance

While IP multicast plays a key role in the transition of video surveillance technology from analog to IP-based, it can be difficult to design, deploy, troubleshoot and scale. IP multicast over Avaya Fabric Connect resolves these issues by providing high scalability, flexibility and ease of deployment.

A fast growing market

Already a critical component of the safety and security procedures for many organizations, video surveillance deployments are expected to grow at an annual rate of 24% through 2016 (IMS Research). In addition to providing real-time monitoring of personnel, assets and the physical environment, video surveillance supports law enforcement efforts such as those surrounding the Boston marathon bombings.

Unfortunately, many networks are not equipped to deal with modern IP video surveillance applications. When data generated by state-of-the-art, high-definition surveillance cameras runs over ill-equipped networks that rely on IP multicast protocols developed 15 or more years ago, the full potential of surveillance data cannot always be realized. Resolving this issue, IP multicast over Avaya Fabric Connect provides the scalability, flexibility and ease of deployment required to accommodate today's high-powered video surveillance traffic.

IP Video Surveillance Network Readiness Checklist

Scalability – How many surveillance cameras can your network support?

Most IP multicast video surveillance solutions limit scaling to a few thousand streams which curbs wide deployment of multicast solutions. Because video surveillance is relied upon to record events such as prison breaks and security breaches, the network on which it runs must be able to scale to meet changing traffic demands.

Availability – How quickly can your IP video surveillance solution re-converge?

Any failure in the network can result in sub-optimal recovery times for an IP video surveillance solution. Slow re-convergence can result in minutes or hours of lost video, a situation that could escalate from inconvenient to dangerous. Make *no video loss* your standard.

IP multicast over Avaya Fabric Connect

10x Scalability

3x Performance

50x Faster re-convergence

Expect Success

Avaya Fabric Connect offers an IEEE/IETF standards-based solution. Avoiding the complexity of traditional overlay multicast routing protocols, it simplifies all IP video surveillance deployments from small to super large.

Simplicity and Predictability– How quickly can you configure your solution and predict performance?

IP multicasting is complex. Relying on protocol overlays that must remain in synch with underlying network topologies, it requires a large operational budget and staff. Choose a solution that eliminates complexity and offers predictable traffic performance.

Security – How can you provide a secure infrastructure for video surveillance traffic?

To ensure that surveillance traffic is isolated from other traffic, many organizations deploy a dedicated surveillance infrastructure. Most traditional LANs, however, do not deliver true end-to-end separation of traffic which makes such an infrastructure vulnerable to security breaches such as VLAN jumping. Deploy a network that offers secure end-to-end traffic separation without the overlay.

A new standard in scalability, simplicity, availability and performance

Over the past few months, Pelco, a pioneer in the video surveillance marketplace, has been trying to break the Avaya Fabric Connect solution. With an extensive global customer base, hundreds of thousands of successful installations and over 20 years of experience in video security, Pelco is one of the most respected vendors in the industry.

Thoughts from the Experts at Pelco

On Traditional Solutions	On Avaya FabricConnect
Complexity: "The biggest pain of what I do as a multicast architect is the complexities of PIM. We have in my opinion a broken model. We've got Spanning Tree then a L3 routing protocol then PIM – when something breaks you have to wait for all of this to reconverge."	"As I am going through the configuration I must have said at least 15 times, this can't be it. This can't be all that I have to do to make this work. Once you configure the SPB core, you don't have to touch it. It's a simple 2 or 3 line command to modify this network. **It's a revolutionary change both in performance and in simplicity of deployment."**
Re-Convergence "I have had 4000 active multicast flows on the network and I had 32 on a monitor wall. I disconnected one of the fibers and asked my executives then to point out where the video loss was. Traditionally in this environment that is going to lock our software up. We are going to a reconnect state and our software is going to struggle to catch up....."	...what we saw was **lightening fast convergence** where you might have a little pixilation but **no video frames lost.**" "Multicast services reconverged **faster than I could record it**.
Performance "In the event of a prison breakout, a guard might want to hit a button and populate a monitor wall with 256 video feeds simultaneously. .. When you hit 256 simultaneous register messages going back to the rendezvous point it's extremely CPU intensive...	...the interesting thing with Avaya ... I never saw the CPU rise higher than 6%."
(Healthy) Skepticism "When I was initially contacted by Avaya my initial response was no. Then I was sent a whitepaper and it peaked my interest...	...then I was shown the technology and I was blown away. **It really is phenomenal**."

Traditional IP multicast versus Avaya Fabric Connect

Complex	Simple
• Multiple protocols (PIM over OSPF) - In typical multicast networks today, PIM must be enabled on all routers globally and on all core interfaces and local edge interfaces where multicast is required. • Traffic routed through rendezvous point • Complex to operate and troubleshoot - Proprietary tools	• Easy to design - Single protocol (IS-IS) • Traffic takes direct route to destination • Easy to deploy and troubleshoot - Standards based • IEEE 802.1 ag extensions - Edge provisioning only • Single command configuration • No need to touch the core
Slow Recovery • Recovery takes seconds, even minutes • Key video may be lost and/or gaps in archived materials created	**Lightning-fast Recovery** • Sub-second recovery times (<200msec) protects applications • Video always available
Limited Scale • 100s of streams • Most systems max out at 1-to-2 thousand	**Massive Scaling** • Tens of thousands of streams supported
Security Vulnerable • Limited solutions offer end-to-end traffic separation - While MPLS can isolate traffic, its design, deployment, and trouble shooting is highly complex	**Secure** • Avaya Fabric Connect provides a totally private, closed network for multicast traffic (L2 and L3 VSN) that delivers end-to-end separation

Learn More

To learn more about the Avaya IP Video Surveillance solution, please contact your local Avaya representative.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
08/13 • DN7334

AVAYA
The Power of We™

Create Outstanding User Experiences with an All Avaya Solution

Which video call would you rather join?

What is Avaya on Avaya?

Avaya on Avaya refers to Avaya Unified, Mobile, and Collaborative Communication applications running on an Avaya Data Network.

Examples of unique Avaya on Avaya solutions include:

- SME Business Collaboration
  - Avaya IP Office and Ethernet Routing Switch (ERS) 3500/ ERS 4000 Series
- Mobile Collaboration
  - Avaya UC Applications, WLAN 8100 and Identity Engines
- Secure BYOD
  - Avaya UC applications, Networking, Services and Components or Applications from Strategic Partnerships

It all comes down to user experience. As Zeus Keravala, principal analyst at ZK Research, puts it: ". . . focus on delivering a high-quality user experience as this will have the **biggest impact on worker productivity**."* While rapid adoption of video and Bring Your Own Device (BYOD) continue to fuel the evolution of enterprise networks, smart businesses understand that investing in applications pays dividends only if employees use them.

That's why Avaya takes an application-first approach to networking. We call it Avaya on Avaya — integrated pre-tested solutions that accelerate time to service and resolve issues proactively through enhanced performance monitoring. Avaya on Avaya is focused on ensuring that network attributes relate directly to the applications that use them and that the network is 100% subservient to the applications that ride on it. On a properly-sized, application-aware Avaya network, for example, video—a high-bandwidth, real-time application—is given priority over non-real-time applications so that it can meet user expectations for quality and, as a result, deliver the business benefits it is intended to deliver.

Benefits of Avaya on Avaya

Best-in-Class User Experience

Unlike a typical network with limited (if any) knowledge of the applications running over it, an Avaya on Avaya network is application aware. This means that it understands the requirements of the Avaya applications it serves because it auto detects and auto provisions them. Real-time Avaya contact center reporting, for example, gets the network priority it needs to keep supervisors apprised as to how well customers are being served right now. And, when a VP at a financial institution participates in an Avaya Radvision Scopia® video call, her call won't dissolve just as final terms and conditions are being tweaked because her video client is able to auto-detect and acquire the network resources she needs.

Ease of Implementation

Avaya on Avaya offers fast, error-free provisioning that accelerates time to service so your business can get to revenue generation rapidly. With a single command, our quick start configuration scripts set up Avaya switches in less than one minute. Likewise, once an Avaya plug-and-play IP phone is plugged into an Avaya switch, one simple command provisions its port in under a minute.

Ease of Support

Avaya Integrated Fault and Performance Monitoring provides network visibility including real-time statistics on delay, jitter and traffic flow, enabling you to resolve issues faster. Essential for support personnel, the Avaya SLAMon agent provides enhanced Service Level Monitoring via a path (versus a per-node) level view to monitoring. The SLAMon agent is available in Avaya IP Phones today and will be extended to Avaya switches soon.

* BYOD: Focus on the user experience, not the device, Zeus Kerravala, 2012

Enhance Productivity

Enhance productivity and sharpen your competitive edge by ensuring that the advanced network capabilities you adopt contribute to meeting the evolving demands of your users and your applications.

Learn More

To learn more about how an all-Avaya solution creates a superior user experience, contact your Avaya account manager, Avaya authorized partner or visit us at **www.avaya.com**

Avaya on Avaya delivers a superior user experience and better value for IT

The Avaya Difference

Avaya Differentiator	What is it?	The Benefit to you!
Auto QoS and Configuration	Avaya's automatic Quality of Service and configuration tools enable Avaya IP Phones and devices to be configured quickly, reducing the burden on IT staff.	Fast error free implementation • In minutes versus hours
Plug N Play Provisioning	Avaya's quick start scripts ensure your equipment is up and running in minutes	Accelerates time to service • Error free configuration • No data expertise required
Integrated Management	Unified management across Avaya UC and Networking products	Ease of Support • Visibility to entire network
Enhanced Service Level Monitoring	Avaya's Enhanced SLA Mon solution provides a path level view to monitoring—for example the path between two users on a video conference call.	Proactively monitor/resolve network performance issues specific to the application
Resilient Stacking	Avaya's resilient stacking allows customers to easily and simply add switches, enabling the stack to be managed as a single unit while minimizing any single point of failure.	Easier to manage and scale • Pay as you grow scaling • Increased resiliency with simplified management
Hot Swap Unit Replacement	Hot swap unit replacement is a key feature of Avaya's Resilient Stacking capability. This allows a switch to be removed from a stack while running, and another unit to be placed into the stack without service disruption or maintenance windows.	No disruption to the user/application • A user can be on a HD video session and a unit/ switch can go down with no impact to the session
Optimal Path Selection	Avaya's switches allow traffic to be forwarded up or down the stack - not round robin like other vendors where traffic is forwarded in one direction.	Best in class user experience • Application traffic is routed via the most optimal path
Quicker Fail Over Time	Avaya's innovative 'Active-Active' model means network elements are always available because they are passing traffic through all links, bypassing the need to recalculate recovery routes (as is the case with Active-Standby models).	Best in Class Uptime • A user can be on a HD video session and a link can go down with no impact to the session. Reduced Costs • Customers can save money and switch capacity by eliminating hardware that only is used in a crisis (Active-Standby)
Fabric Connect	Avaya's innovative 'fabric' network solution is analogous to a freeway overpass system. It ensures applications take the most optimal route through the network and offers efficient load balancing.	High performance for mission critical applications • Reduced latency and jitter
Holistic BYOD Solution	Avaya offers a holistic, pre-tested solution for BYOD comprising UC, networking, services and partnerships.	Your Trusted Advisor for BYOD • Avaya is your one stop-shop

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc. or Radvision, an Avaya Company.
02/13 • DN7210-01

AVAYA

The Power of We™

Avaya Configuration and Orchestration Manager

It's a fact. Applications that support strategic business plans and goals are more dependent than ever before on complex network services and protocols. And, although these services and protocols are becoming more complex, installation and configuration of them shouldn't have to be. That's where Avaya Configuration and Orchestration Manager comes in.

Avaya Configuration and Orchestration Manager helps reduce the administration, complexity and related costs of configuring, provisioning and troubleshooting your network — all from one central server.

What is Avaya Configuration and Orchestration Manager?

Avaya Configuration and Orchestration Manager is a real-time web-based network management solution that offers best-in-class configuration, provisioning and troubleshooting for a wide range of network devices and technologies.

Designed to support multiple users, the topology-driven Avaya Configuration and Orchestration Manager is ideal for companies that want a cost-effective, easy-to-use and easy-to-manage solution that simplifies configuration and device provisioning.

Avaya COM allows authorized and authenticated personnel to conveniently, quickly and securely configure devices on the network regardless of where the user or the device is located.

The solution supports the Avaya portfolio of Ethernet Routing Switches, Virtual Services Platforms, and Wireless LAN (WLAN) products as well as Avaya IP phones.

Centralized element management and access control

Avaya Configuration and Orchestration Manager helps reduce the administration, complexity and related costs of configuring, provisioning and troubleshooting your network — all from one central server.

As a GUI-driven solution, Avaya COM includes anywhere-anytime, network-wide device element management, inventory, updates, and device and user access control. Furthermore, its intuitive and easy-to-use wizards can help reduce configuration time by as much as 70 percent, freeing up valuable IT expertise.

Avaya COM's powerful user access controls not only protect the network against unauthorized access, but also help avoid misconfiguration issues and downtime. And if you want insight into who made changes and when, the solution's audit logs allow you to see all the details, including who, what and when.

Element management is performed through scalable plug-in software called Off-Box Enterprise Device Manager (EDM). With EDM, you can manage all elements from one server — including assigning specific users access to a given device. Unlike on-box solutions that have limited processing power, Off-Box EDM is able to leverage the server's powerful CPU and memory to accelerate configuration processes and perform faster and better system monitoring.

For organizations with older devices in their network, Avaya COM also supports Java Device Manager (JDM) in addition to Off-Box EDM. Avaya COM will automatically launch JDM or EDM depending on the type of device.

A look at Configuration and Orchestration Manager sub-managers

Avaya Configuration and Orchestration Manager includes multiple sub-managers that allow you to monitor, manage and configure protocols and settings in network devices. For example, the Multicast and VLAN management tools allow network managers to quickly configure or re-configure networks to support new service requirements.

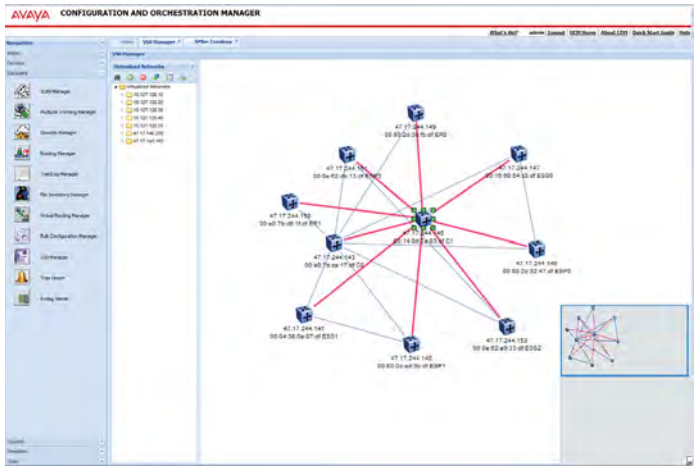


Figure 1. Avaya COM topology views help monitor and simplify network set-up

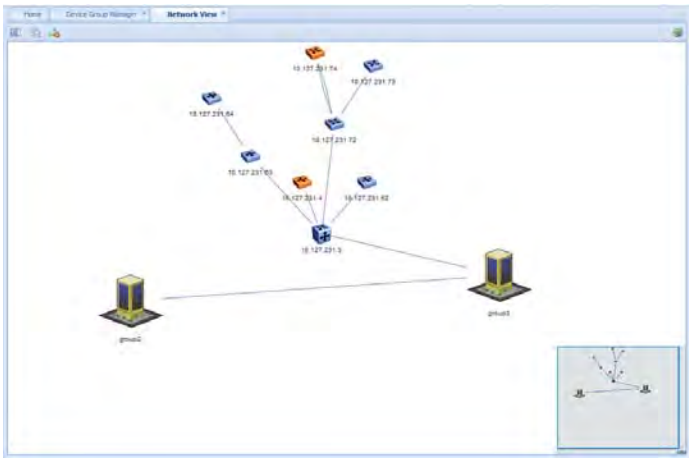


Figure 2. Devices can be grouped on the topology map to help simplify network views while improving manageability

VLAN Manager

With VLAN Manager, network managers can create, delete or modify VLANs across one or multiple devices. They can also view VLAN nodes across the network, as well as view VLAN membership, port configurations and Spanning Tree Protocol information. VLAN configurations can also be exported to a flat file.

Multi-Link Trunking Manager

The Multi-Link Trunking Manager allows creation, deletion and editing of Multi-Link or Split Multi-Link Trunk (MLT or SMLT) membership information across devices in the network. MLT and SMLT are key technologies of the Avaya Virtual Enterprise Network Architecture (VENA) and enable multiple switch ports to be aggregated into a single logical port with access to the total bandwidth.

Bulk Configuration Manager

The Bulk Configuration Manager centralizes file uploads or downloads across multiple devices. This feature makes it easy to schedule, update and deploy updated images or configuration files across the network. It can also perform centralized backup and restore of device configurations, including automated re-boot after a restore operation.

Virtual Routing and Forwarding Manager

The Virtual Routing and Forwarding (VRF) Manager enables users to configure VRF services via a single GUI workflow. It further enables users to be mapped to a specific VRF instance for access control and device partitioning purposes, especially where multiple users, enterprises and/or divisions may share a VRF-based device.

Virtual Services Network Manager

The Virtual Services Network (VSN) enables users to monitor, configure and troubleshoot Shortest Path Bridging (SPB) parameters on Avaya ERS and VSP platforms. This includes the ability to discover and provision the Layer 2, Layer 3 and BGP VSNs, as well as view and troubleshoot the SPB topology. VSN Manager further operates in conjunction with Avaya Virtualization Provisioning Service (VPS) to synchronize VSN/SPB provisioning and monitoring with an enterprise's virtual server environment.

Multimedia Manager

Multimedia Manager enables users to manage Ethernet switch parameters associated with Avaya IP phones. The Auto Detect/Auto Configuration (ADAC) capability on Avaya Ethernet switches automatically detects and configures VLAN, port and QoS settings for Avaya IP phones. Multimedia Manager allows users to view and configure the Ethernet port parameters (including IEEE 802.1ab settings) associated with the ADAC service.

Routing Manager

With the Routing Manager, users can configure routing parameters on network devices discovered by Avaya Configuration and Orchestration Manager. The manager supports IP Routing, RIP, OSPF, ARP, VRRP, IPv6 Routing and Ipv6 OSPF.

Multicast Manager

The Multicast Manager enables administrators to view and configure devices that use multicast protocols, including viewing of multicast delivery trees. The manager supports IGMP, DVMRP and PIM-SM protocols.

Trap and Log Manager

With Trap and Log Manager, administrators can view traps and log files for network devices, as well as set event notifications. Trap/log severity levels can be configured via color codes and viewed within the event manager. The manager can also propagate the trap/log levels to the topology map by the color codes. Event notifications can be sent to a specific host and/or port, as well as via e-mail. By consolidating traps and logs for all managed devices, Avaya Configuration and Orchestration Manager can eliminate the overhead of checking individual device event status.

Security Manager

Security Manager helps centralize network management access to devices discovered by Avaya Configuration and Orchestration Manager. This tool allows network managers to set, change and synchronize passwords and security features for CLI access, web access, SNMP access, RADIUS properties and access policies.

Features and benefits at a glance	
Feature	**Benefit**
User-based views allow administrators to create device groupings, which can be assigned to users and/or displayed on the topology map.	Better control of user access to the network. Simplified topology maps, especially for large networks.
Advanced event management lets administrators associate colors to trap types or severities. When a trap is received, topology map icons can be color-highlighted and an e-mail sent to users.	Quick visualization of network issues helps troubleshooting.
Proactive change management compares device configurations to a previous baseline during and delivers results in a report or e-mail message.	Improved configuration monitoring helps reduce network errors.
IP phone discovery with centralized oversight of related Ethernet switch parameters.	Enhanced integrated management of Avaya IP phones within the network.
Increased scalability for larger networks.	Up to 1,500 devices can be managed via a single license.

Inventory Manager

Inventory Manager can discover and display lists of hardware and software installed across the network. This helps an enterprise build a consolidated view of its network equipment. Inventory information can also be imported or exported to an external file.

Wizards and templates

Avaya Configuration and Orchestration Manager also facilitates the most complex network set-up tasks through simplified, intuitive wizards and easy-to-use templates. Operating through a guided workflow, wizards help create configuration templates that can be saved and used multiple times. This can result in fewer keystrokes, accelerated installation and a reduction in errors that can lead to costly network downtime. Wizards are available for the following complex protocols and services:

- Split Multi-Link Trunking/Multi-Link Trunking (SMLT/MLT) Clustering
- Virtual Local Area Network (VLAN) Management
- Virtual Services Networks (VSN)
- Software Device Patch Management

Key features and tools

TFTP Server allows file transfers between servers without authentication. You can also trace information on file transfer when the trace mode feature is enabled.

Smart Diff is a tool that compares ASCII-based switch configuration files. Through analysis, it creates a Diff list that can be stored as a file.

Device Port Scan enables network device port scanning to determine the MAC addresses of connected end nodes. The data collected from these scans is stored and put into a file format. Scans can be scheduled at regular intervals or manually triggered.

Scheduler allows you to schedule tasks submitted by sub-managers. This tool runs in the background independent of Avaya Configuration and Orchestration Manager. It can execute scheduled tasks with or without COM running in front.

CLI management allows users to interact with the device using Telnet and SSH. CLI manager is integrated with Avaya Configuration and Orchestration Manager, eliminating the need to install the tool on individual devices.

Supported devices

- Virtual Services Platform 9000 — v3.0 or higher
- Virtual Services Platform 7000 — v10.0 or higher
- Ethernet Routing Switch 8600/8800 – v4.0 or higher
- Ethernet Routing Switch 8300 — v4.1, v4.2
- Ethernet Routing Switch 5510, 5520 — v6.0 or higher
- Ethernet Routing Switch 56xx — v5.1 or higher
- Ethernet Routing Switch 5530 — v5.1 or higher
- Ethernet Routing Switch 48xx – v5.6 or higher
- Ethernet Routing Switch 45xx — v5.2 or higher

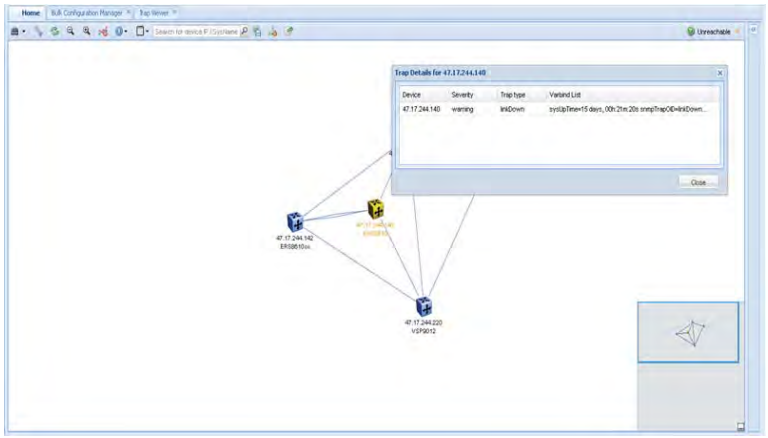


Figure 3. Device events can be color-highlighted and viewed from the topology map

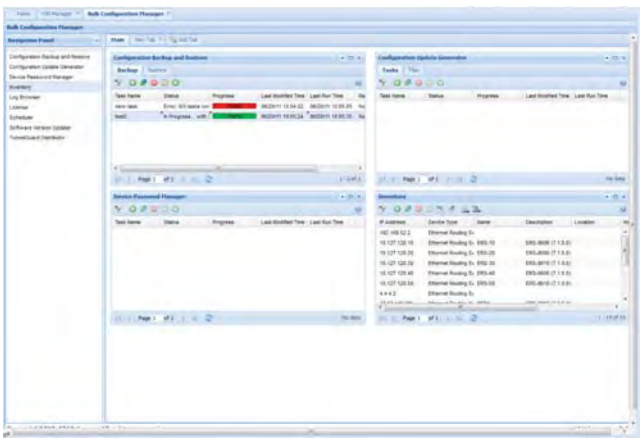


Figure 4. Bulk Configuration Manager enables centralized management of device software

- Ethernet Routing Switch 35xx — v5.0 or higher
- Ethernet Routing Switch 25xx — v4.1 or higher
- Ethernet Routing Switch 16xx — v2.1.5.x or higher
- WLAN 8100 — v1.0 or higher
- WLAN Access Points 2200 and 2221 — 1.3
- Belden Hirschmann devices

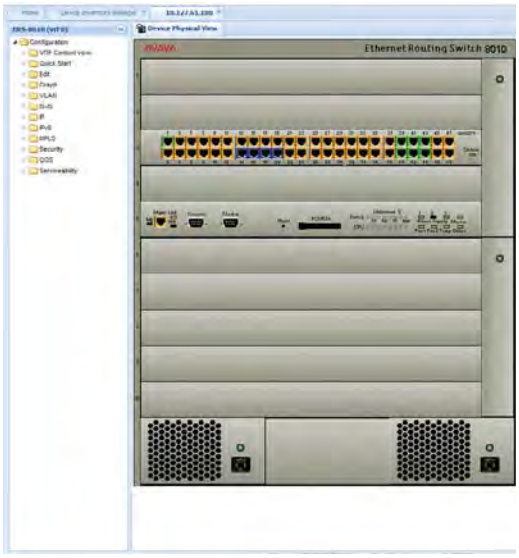


Figure 5. Off-Box Enterprise Device Manager (EDM)

WHAT IS OFF-BOX ENTERPRISE DEVICE MANAGER?

Centralized Off-Box EDM is state-of-the-art device element management software that allows you to manage all devices centrally from a single server. Through Off-Box EDM, you have better control over who makes changes to devices. The manager offers:

- Read-only and read-write access control
- User-based access control and device list management
- Support for up to 30 EDM user sessions concurrently
- User-based audit logs

Learn More

To learn more about Avaya Configuration and Orchestration Manager, contact your Avaya Account Manager or Avaya Authorized Partner. Or, visit us online at **avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
06/12 • DN5249-02

AVAYA

The Power of We™

Avaya Ethernet Routing Switch 3500 Series

Highlights

- Cost effective Fast Ethernet and Gigabit Ethernet switches available in 10-and-24 port model variants.
- Enterprise class features at SME price points with 100+ enterprise class features at price points that fit into tight capital budgets.
- Fanless models for silent operation in open areas – ideal for classrooms, boardrooms and retail shops.
- Resilient stacking that provides pay as you grow scaling with up to 80 Gbps of virtual backplane capacity in a stack of 8 units.
- Power over Ethernet/ Power over Ethernet+ models for powered connection of IP phones and other devices
- Simplified operations including 1-minute plug-and-play capabilities for IP phones, automatic QoS provisioning and intuitive management options.
- Unique quick set-up utility that simplifies installation with IP Office.

The Avaya Ethernet Routing Switch (ERS) 3500 is a series of six high-performance compact Ethernet switches specifically designed for SMEs, branches and open environments outside the wiring closet.

Figure 1: The ERS 3500 product family

A cost-effective, feature-rich solution, the ERS 3500 Series provides both standalone and stackable Ethernet switching perfectly suited to the unique requirements of SMEs and remote offices.

The Avaya Ethernet Routing Switch 3500 is a reliable, low-cost solution that provides converged services within single or multiple sites typically of 200 users or less.

It offers three models which can operate in fanless mode to provide silent operation for classrooms, hospitality suites, retail sites or other noise sensitive environments – outside of the wiring closet.

It also supports IEEE 802.3at Power over Ethernet Plus (PoE+) which can power IP phones, wireless access points, surveillance cameras and other devices. PoE+ with its 32-watt power budget ensures investment protection for current as well as future high-powered end points.

For environments that need upside capacity, all ERS 3500 24-port models support Avaya's Stackable Chassis Architecture. This allows up to eight ERS 3500 units to be cabled together to form a single logical chassis with up to 200 ports and 80 Gigabits of virtual backplane capacity. The ERS 3500 stackable chassis architecture can also improve network availability and resiliency through hot-swap and link aggregation capabilities across the stack.

Delivering high performance Layer 2 switching, Layer 3 local and static routing, advanced convergence and a range of security features, the ERS 3500 provides enterprise class features at an SME price. It also can automate many of today's manual processes to simplify operations and reduce costs for the cost conscious enterprise.

Simplified Operations

The ERS 3500 is well suited for smaller environments where there might be little or no local IT staff. It is designed to be simple to install, manage and operate. And when deployed in conjunction with an Avaya IP Office system the ERS 3500

offers increased operational simplicity over third party switching solutions through features that both simplify the initial deployment as well as ongoing adds, moves and changes.

Automated switch set up with Avaya IP Office

For deployment scenarios where there may not be a data networking support specialist on site, the ERS 3500 provides an automated script to enable fast, error free installation when deployed with IP Office. This installation script called "run ip office" automates the entire set up process on the ERS 3500 switch by utilizing LLDP or ADAC functionality to automatically set up voice and data VLANs, QoS and policies on the IP phones, meaning that IP Office and IP Phones are ready to be connected immediately. This helps ensure fast setup and error free deployment according to Avaya best practices and consistency between different locations for large rollouts in multiple branch offices.

Figure 2: ERS 3500 with IP Office, the Avaya Flare® Communicator for iPad Device and an Avaya 9600 handset

Validated interoperability with Avaya IP Office

Avaya has also validated interoperability between the ERS 3500 and the IP Office system to ensure the two products work together seamlessly. This eliminates any complexities associated with having to provision, manage and troubleshoot a third party switch with the Avaya voice / unified communications infrastructure. A Technical Solutions Guide, available to partners and end customers, showcases best practice configurations, ensuring optimal performance of the solution.

Certified 1-minute plug-and-play for IP phones

Plug and play means that as soon as an IP phone is plugged into an Avaya Ethernet switch, the IP phone is automatically recognized and configured. This feature can dramatically simplify the roll out of IP phones and simplify ongoing adds, moves and changes; empowering employees to move their own phones without the assistance of an outside contractor. To enable this plug and play capability, Avaya offers IEEE 802.1AB Link Layer Discovery Protocol and LLDP-Media Endpoint Discovery (LLDP-MED) as well as the Avaya Auto Discovery and Auto Configuration (ADAC) feature.

With LLDP enabled, the ERS 3500 learns the identification of neighboring devices and provides these details to the network management system. This enables the system to have the most up-to-date physical view of the network. In addition, ERS 3500 can dynamically apply voice VLANs and QoS to both the IP phone and the attached edge switch port. When the IP phone is moved to another location, the configuration is automatically updated. QoS is also automatically

The ERS 3500 Series models

Fast Ethernet Models

ERS 3526T	24 x 10/100Mbps + 2 Combo 10/100/1000 or SFP ports + 2 SFP / 2.5G rear ports. Fanless.
ERS 3526T-PWR+	24 x 10/100Mbps PoE+ ports + 2 Combo 10/100/1000 or SFP ports + 2 SFP / 2.5G rear ports. PoE budget 370W.

Gigabit Ethernet Models

ERS 3510GT	8 x 10/100/1000Mbps + 2 SFP ports. Standalone, fanless.
ERS 3510GT-PWR+	8 x 10/100/1000Mbps PoE+ ports + 2 SFP ports. Standalone. Fanless mode @ 60W PoE budget, Fan operation mode @ 170W PoE budget.
ERS 3524GT	24 x 10/100/1000Mbps with 4 shared SFP ports (combo with ports 21-24) + 2 SFP / 2.5G rear ports.
ERS 3524GT-PWR+	24 x 10/100/1000Mbps PoE+ ports with 4 shared SFP ports (combo with ports 21-24) + 2 SFP / 2.5G rear ports. PoE budget 370W.

provisioned on the ERS 3500 uplink ensuring voice is given top priority into the network core. With one of the most comprehensive implementations of LLDP in the industry, Avaya offers enhancements for standards based provisioning of Avaya IP Phones via integrated and customizable TLV support.

These features not only save network operators time, they can virtually eliminate the likelihood of a provisioning error during a large IP phone deployment. Third-party testing conducted by Miercom[1] validated that when IP phones were plugged into an Avaya Ethernet Switch, they were operational in just over 1 minute.

Intuitive Management

ERS 3500 Series offers flexible options for managing, troubleshooting and operating your devices.

- For customers most comfortable using the Command Line Interface (CLI), the ERS 3500 offers an industry-aligned CLI that is intuitive and requires little to no formal training for individuals with Ethernet switching backgrounds.
- For customers who are looking for a simple Graphical User Interface (GUI) for management and provisioning, Avaya's Enterprise Device Manager (EDM) is an embedded web-based element management and configuration tool that enables set-up, configuration and monitoring of a single device using either HTTP or HTTPS (Secure Web). The on-box embedded version of EDM is available at no extra charge with every switch and can be accessed by a standard web browser. There is also an off-box version available as a free downloadable software plug-in that can be installed on Avaya's Configuration and Orchestration Manager (COM) application.
- For customers rolling out many ERS 3500 devices, the Avaya Configuration and Orchestration Manager (COM) application, simplifies multi-element configuration via wizards and templates – increasing consistency and reducing the chances of error during configuration changes. COM also provides network discovery, device backup, bulk configuration management and audits of configuration changes.
- SNMP-based management (SNMP v1, v2 and v3) provides an alternative standards-based management approach as well as an interface for Configuration and Orchestration Manager.

The Avaya ERS 3500 supports secure management via IPv4 or IPv6 through features such as Secure Shell (SSHv1/2), Secure Sockets Layer (SSL), Simple Network Management Protocol (SNMPv1,2,3), IP Manager Lists, and administrative authentication via RADIUS or TACACS+ when connecting to the switch or stack.

ERS 3500 Series capabilities have been enhanced with the v5.1 feature release. Key features include:

- Introducing resilient stacking on all ERS 3500 24-port models. Up to 8 units can be connected into a single stack with up to 192 ports of capacity and 80 Gbps of virtual backplane bandwidth
- New DHCP Server support enabling the ERS 3500 to automatically assign IP addresses to end-devices, such as IP phones and PCs.
- Improved 802.1X EAP/NEAP set-up and accounting for more flexible configuration and reporting.
- Enhanced storm control providing per port granular broadcast, multicast & unicast packet rate control

The ERS 3500 v5.1 also incorporates several features from prior feature pack releases, including:

- Quick Set-up for IP Office script to automate the set-up of IP Office systems and phones on the ERS 3500. With v5.1, the script has also been enhanced to extend IP Office set-up across multiple ERS 3500s in a stack.
- Voice VLAN Integration that centralizes and simplifies Voice VLAN set-up. Functions, such as Layer 3 routing or static ports, can be easily assigned across the VLAN.

Convergence-ready for Unified Communications, High-Definition Video and more

For businesses looking to consolidate all forms of communication – voice, video and data – on a single infrastructure, the Avaya ERS 3500 Series delivers functionality that simplifies convergence of these technologies.

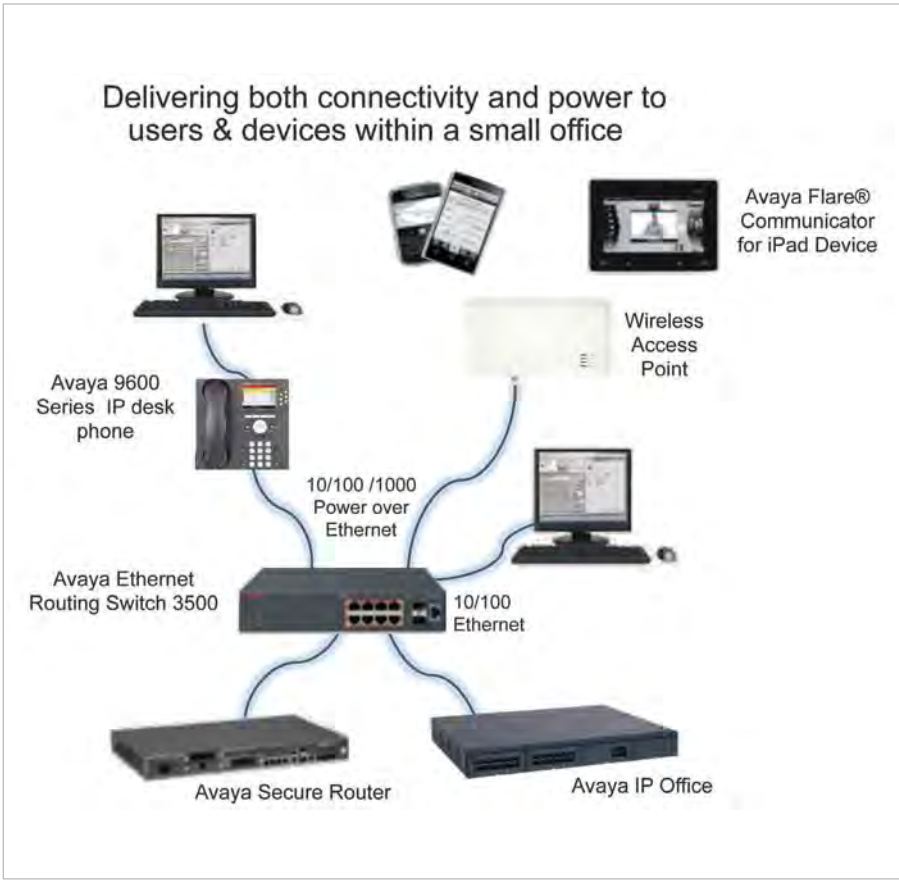


Figure 3: ERS 3500 deployment scenario

Support for IEEE 802.3at PoE+ to power your device

Through support for IEEE 802.3at PoE+ which delivers up to 32 Watts of power per port to end devices, ERS 3500s are able to power IP phones, wireless LAN access points, networked high-definition CCTV cameras and other devices. This eliminates the need for separate power supplies for each unit, enabling reduced cabling and management costs for adds, moves, or changes.

The higher power budget delivered by the PoE+ standard ensures that customers have the added flexibility of converging video surveillance traffic over the network, since pan, tilt and zoom cameras are one of the end devices that require the additional power provided by PoE+. It also ensures investment protection for future end points, such as new Wireless LAN Access Points (3x3 802.11n access points and emerging 802.11ac access points) as well as next-generation video phones.

The 24-port PoE+ enabled products (ERS 3526T-PWR+ and ERS 3524GT-PWR+) support a maximum power budget of 370 Watts and the 10-port Gigabit Ethernet model (ERS 3510-PWR+) supports a maximum power budget of 170 Watts – dramatically higher than competitive switches in its class – enabling it to deliver a concurrent average of 20 Watts of power to each of the eight PoE+ enabled access ports.

Comprehensive QoS capabilities

The ERS 3500 series delivers unsurpassed control for networks supporting a wide range of different application types. The ERS 3500 classifies, prioritizes and marks LAN IP traffic using up to four hardware queues on every port – including the rear SFP ports.

Classification can be based on MAC address, IP ToS/DSCP marking, IP source/destination address or subnets, TCP/UDP source/destination port/port range, IEEE 802.1p user priority bits, ingress source port, IP Protocol ID (e.g., TCP, UDP, IGMP), EtherType (e.g., IP, IPX) or the IEEE 802.1Q VLAN ID. Comprehensive traffic policing and traffic shaping are also supported.

Intelligent stacking solution delivering scalability, flexibility, resilience and performance

No one knows stacking like Avaya. We introduced our first Stackable Chassis product in 1998 and have been perfecting the technology ever since. We were the first and only vendor to break the Terabit boundary with our ERS 5600 Series products and we have differentiated ourselves in the industry by ensuring that our Stackable Chassis perform like a traditional modular chassis implementation. We offer genuine chassis-like features including true pay-as-you-grow scaling and in service maintenance and restoration. From a management perspective, our Stackable Chassis looks like a single network entity – utilizing only a single IP address.

A stack of up to eight 24-port Avaya ERS 3500 units can be created, enabling the Ethernet Routing Switch 3500 series to deliver up to 80Gbps stacking throughput by scaling up to 192 x 10/100 ports and 16 x 10/100/1000/ SFP combo ports, or 192 x 10/100/1000 ports. Stacking is supported on ERS 3526T/ERS 3526T-PWR+ and ERS 3524GT/ 3524GT-PWR+ models.

High performance architecture with true pay-as-you grow scaling

Our Stackable Chassis products combine non-blocking internal switching fabrics with high-speed virtual backplane architecture for a high performance solution that scales proportionally as new switches are added. The ERS 3500 series scales to a maximum of 80Gbps of virtual backplane throughput by simply cabling up 8 units together. Avaya's Stackable Chassis architecture simplifies stack management. Customers do not have to worry about different software versions on different products, since all ERS 3500 units run the same software image. The software image is loaded onto the base unit of the stack which then loads the image to all the other switches in the stack. As new units are added to the stack, the ERS 3500 automates the software image and configuration download process. Third party testing[1] has validated that new ERS 3500 units can become operational in just over 2 minutes of being cabled into the stack.

To ensure wire-speed performance, our Stackable Chassis architecture is based on a shortest-path forwarding algorithm for optimal data flow across the stack. Unlike competitive solutions that use unwieldy logical ring or token technology, Avaya allows traffic to flow upstream and downstream simultaneously from every switch connected to the virtual backplane, optimizing performance, resiliency, and resource utilization. Avaya has an additional advantage in that Quality-of-Service settings are honored as traffic passes over the stacking connections – providing applications with optimal performance, and a positive user experience.

All ERS 3500 24-port models come with two in-built Stackable Chassis interfaces for simple, cost-effective and efficient connectivity. Unlike comparative offerings which daisy chain low-speed interfaces, this design frees uplink ports for dedicated connectivity to the backbone. In addition to the stacking cables, a return cable is also used to provide full virtual chassis resiliency and to protect against any stack port, switch unit or cable failures.

Unlike competitive solutions which charge large premiums for stacking, the ERS 3500 offers the ability for customers to utilize its Stackable Chassis architecture without incurring any licensing or hardware costs.

In-service maintenance and restoration

Virtual hot swap, a critical serviceability and operability capability, helps ensure that failure in any stacked unit is quickly and easily

rectified. Pioneered in modular switches, virtual hot swap is available in Avaya stackable chassis solutions where, without complex engineering, it enables immediate like-for-like unit replacement with no impact on other functionality and traffic, empowering operators to deploy our solutions just as they would a chassis. If a failure occurs, neighboring switches automatically wrap their fabric connections to help ensure that other switches in the stack are not impacted. The failed unit is simply disconnected from the fabric and, without pre-staging of software or configuration, a like unit is inserted, cabled, and powered-up. The Automatic Unit Replacement (AUR) process self-manages the software and configuration downloads to the new switch then brings it online, without the need for an engineer to manage the process.

Further complementing the Avaya ERS 3500 stacking architecture, Avaya supports standards-based 802.3ad Link Aggregation as well as its own Multi-Link Trunking technology that allows grouping of ports to form high-speed trunks/ aggregations. These bundles or groups of ports can be distributed across different units in the same stack, delivering higher levels of resilience in case of link or switch failure to help ensure that traffic gets to its destination.

Stack health-check monitoring, a real-time, at-a-glance view of stack operational status and health, further enhances operational and management simplicity.

Centralized Management

From a management perspective, an ERS 3500 stackable chassis solution appears as a single networking entity – utilizing only a single IP Address. This can significantly reduce the number of switches to be managed within the network as a stack of up to 8 switches can be managed just as easily as a single switch.

Securing access at the edge

The Ethernet Routing Switch 3500 offers the highest level of security with authenticated network access that leverages IEEE 802.1X Extensible Authentication Protocol (EAP) with multiple extensions including support for Multi-Host Multi-Authentication mode (MHMA), Multi-Host Single-Authentication mode (MHSA), non EAP device support (i.e. printers, etc.) and RADIUS based MAC authentication support. Up to 32 host devices per switch port are supported in these modes.

Based on the IEEE 802.1X standard, EAP limits access to the network based on user credentials. A user is required to login to the network using a username/password; the user database is maintained on the authentication server (not the switch). Additionally MAC-address based security limits access to only network-authorized and trusted personnel, including full tracking of network connections. Network access is granted or denied via proper MAC-address identification (up to a maximum of 448).

When advanced, policy-based and centralized user/device authentication is required, the Avaya ERS 3500 can be used in conjunction with the innovative Avaya Identity Engines portfolio solution. This easy-to-deploy, policy-based solution assigns network access rights and permissions based on user role, where the user connects (local or remote) and how the user connects (wired or wireless). In this way, each connected device and user are known and are governed by device-specific security policies. For example, based on their network credentials, an employee using a corporate owned device will be granted full corporate access however, while using a non-corporate-owned device, they will be granted limited access.

As the number of employee-owned devices increases, Identity Engines can help network operators retain control by running device health checks and verifying user and device credentials. Identity Engines helps ensure that network access permission levels are enforced and adhered to without undue effort on the part of the IT staff. It also helps ensure that consistent access and security policies are applied to all end points – whether they be wired or wireless.

In addition, the Avaya ERS 3500 offers security features that actively protect against malicious network attacks. These include protection from snooping of DHCP services, verification and filtering of ARP traffic via in-hardware processing (Dynamic ARP inspection), restriction of IP traffic to registered end devices (IP Source Guard), and control of the flow of Spanning Tree BPDUs within the network (BPDU Filtering).

Compact Form Factors with Flexible Installation Options

The 10 port ERS 3500 models (3510GT & 3510GT-PWR+), which are 1U tall, 8.75" wide and 8" and 11" deep respectively, can be installed on a table or shelf using rubber feet (included), or can be wall mounted using the wall mount screws and anchors (also included). Additionally, optional rack accessory kits are available allowing the ERS 3510GT and ERS 3510 GT-PWR+ to be mounted either alone or with two units side-by-side in a standard 19" rack.

The 24 port ERS 3500 can be installed on a table or shelf or wall mounted using the included rack mount brackets mounted at 90 degrees, or in a standard 19" equipment rack.

Energy Efficiency

New regulations and rising awareness of the ever-increasing cost of electrical power keep energy efficiency top of mind. An innovator in this area, Avaya has built energy efficiency into many of its hardware products. In fact, independent testing indicates that Avaya LAN Switches, Call Servers, Gateways, Unified Messaging Servers and Gigabit IP Phones are typically more energy efficient than competitive equipment. The ERS 3500 is based on highly efficient power supplies – delivering over 80% efficiency.[2] The ERS 3500 also supports dynamic power management where each port can be configured to limit the power delivered to a device and for power priority level—low, high, and critical.

The ERS 3500 also supports Energy Efficient Ethernet in hardware. This, along with Avaya Energy Saver functionality, will be enabled in a future software release. Together, these features can further conserve energy by turning down port speeds during designated off-peak hours.

Lifetime Warranty

Avaya includes industry-leading warranty services for our portfolio of stackable switches, including Avaya ERS 3500 Series products. The warranty includes complimentary next-business-day shipment of failed units for the life of the product, and ongoing technical support. This includes support for the shipped software version, with an optional Software Release Service available to provide access to new feature releases.

Summary

Avaya is positioned to provide an end-to-end solution for converged networks. The Ethernet Routing Switch 3500 series, along with other Avaya products, can increase profitability and productivity, streamline business operations, lower costs and help your business gain a competitive edge.

Model Specifications

ERS 3526T

Switch Details:	24 10/100Base-TX ports, plus 2 combo 10/100/1000BASE-T or SFP ports 2 rear SFP ports can be used as additional ports in Standalone Mode, or, 2 rear HiStack ports delivering up to 10Gbps (FDX) of Stackable Chassis throughput per switch in Stacking Mode (future) Fanless operation System CPU speed: 400MHz System memory: 32MB Flash, 128MB DRAM RJ-45 Console port provides industry standard serial port connectivity Switch capacity and forwarding rate: 12.8Gbps / 9.5Mpps MTBF: 645,510 hrs
Dimensions:	Height: 1U or 44.5mm / 1.75” Width: 440mm / 17.5” Depth 280mm / 11”
Weight:	3.60kg / 8lb
Power and Thermal:	Input voltage: 100 to 240 VAC@ 47 to 63 HZ Input current (max): 0.28A@100VAC Power consumption: 28.5 Watts max Thermal rating (output): 65 BTU/hr max

ERS 3526T-PWR+

Switch Details:	24 10/100BASE-TX ports with support for IEEE 802.3af PoE or IEEE 802.3at PoE+, plus 2 combo 10/100/1000BASE-T or SFP ports 2 rear SFP ports can be used as additional ports in Standalone Mode, or, 2 rear HiStack ports delivering up to 10Gbps (FDX) of Stackable Chassis throughput per switch in Stacking Mode (future) System CPU speed: 400MHz System memory: 32MB Flash, 128MB DRAM RJ-45 Console port provides industry standard serial port connectivity Switch capacity and forwarding rate: 12.8Gbps / 9.5Mpps MTBF: 332,778
Dimensions:	Height: 1U or 44.5mm / 1.75” Width: 440mm / 17.5” Depth 280mm / 11”
Weight:	4.50kg / 10lb
Power and Thermal:	Input voltage: 100 to 240 VAC@ 47 to 63 HZ Input current (max): 5.0A@100VAC Power consumption: 500Watts max Thermal rating (output): 360 BTU/hr max Maximum power budget: 370 Watts

ERS 3510GT

Switch Details:	8 10/100/1000BASE-T ports with 2 SFP ports Fanless operation Standalone System CPU speed: 400MHz System memory: 32MB Flash, 128MB DRAM RJ-45 Console port provides industry standard serial port connectivity Switch capacity and forwarding rate: 20Gbps / 14.9Mpps MTBF: 892,667 hrs
Dimensions:	Height: 1U 44.5mm / 1.75” Width: 220mm / 8.75” Depth 200mm / 8”
Weight:	1.75kg / 3.9lb
Power and Thermal:	Input voltage: 100 to 240 VAC@ 47 to 63 HZ Input current (max): 0.18A @ 100VAC, Power consumption: 18 Watts max Thermal rating (output): 61 BTU/hr max

ERS 3510GT-PWR+

Switch Details:	8 10/100/1000BASE-T ports with support for IEEE 802.3af PoE or IEEE 802.3at PoE+ with 2 SFP ports Standalone Dual power modes - fanless operation in Low Power Budget mode @ 60W max PoE budget, or normal fan operation in High Power Budget mode @ 170W max PoE budget. System CPU speed: 400MHz System memory: 32MB Flash, 128MB DRAM RJ-45 Console port provides industry standard serial port connectivity Switch capacity and forwarding rate: 20Gbps / 14.9Mpps MTBF: 673,452 hrs
Dimensions:	Height: 1U 44.5mm / 1.75” Width: 220mm / 8.75” Depth 280mm / 11”
Weight:	2.70kg / 6lb
Power and Thermal:	Input voltage: 100 to 240 VAC@ 47 to 63 HZ Input current (max): 2.1A @ 100VAC Power consumption: 210 Watts Thermal rating (output): 156 BTU/hr max Maximum power budget: 170 Watts

ERS 3524GT

Switch Details:	24 10/100/1000BASE-T ports, with 4 shared SFP ports (combo with ports 21-24) 2 rear SFP ports can be used as additional ports in Standalone Mode, or, 2 rear HiStack ports delivering up to 10Gbps (FDX) of Stackable Chassis throughput per switch in Stacking Mode (future) System CPU speed: 400MHz System memory: 32MB Flash, 128MB DRAM RJ-45 Console port provides industry standard serial port connectivity Switch capacity and forwarding rate: 52Gbps / 38.7Mpps MTBF: 657,619 hrs
Dimensions:	Height: 1U 44.5mm / 1.75” Width: 440mm / 17.5” Depth 280mm / 11”
Weight:	3.55kg / 7.8lb
Power and Thermal:	Input voltage: 100 to 240 VAC@ 47 to 63 HZ Input current (max): 0.28A @ 100VAC Power consumption: 28.5 Watts max Thermal rating (output): 95 BTU/hr max

ERS 3524GT-PWR+

Switch Details:	24 10/100/1000BASE-T ports with support for IEEE 802.3af PoE or IEEE 802.3at PoE+, with 4 shared SFP ports (combo with ports 21-24) 2 rear SFP ports can be used as additional ports in Standalone Mode, or, as 2 rear HiStack ports delivering up to 10Gbps (FDX) of Stackable Chassis throughput per switch in Stacking Mode (future) System CPU speed: 400MHz System memory: 32MB Flash, 128MB DRAM RJ-45 Console port provides industry standard serial port connectivity Switch capacity and forwarding rate: 52Gbps / 38.7Mpps MTBF: 336,357 hrs
Dimensions:	Height: 1U or 44.5mm / 1.75” Width: 440mm / 17.5” Depth 280mm / 11”
Weight:	4.61kg / 10.2lb
Power and Thermal:	Input voltage: 100 to 240 VAC@ 47 to 63 HZ Input current (max): 5.0A@100VAC Power consumption: 500 Watts max Thermal rating (output): 357 BTU/hr max Maximum power budget: 370 Watts

Avaya Ethernet Routing Switch 3500 Series Ordering Information

ERS 3500 Series Models	
AL3500?01-E6*	**ERS 3526T** featuring 24 x 10/100Mbps + 2 Combo 10/100/1000Mbps or SFP ports + 2 SFP / 2.5G rear ports. Fanless.
AL3500?11-E6*	**ERS 3526T-PWR+** featuring 24 x 10/100Mbps PoE+ ports + 2 Combo 10/100/1000Mbps or SFP ports + 2 SFP / 2.5G rear ports. PoE budget 370W.
AL3500?04-E6*	**ERS 3510GT** featuring 8 x 10/100/1000Mbps + 2 SFP ports. Standalone. Fanless.
AL3500?14-E6*	**ERS 3510GT-PWR+** featuring 8 x 10/100/1000Mbps PoE+ ports + 2 SFP ports. Standalone. Fanless mode @ 60W PoE budget, Fan operation mode @ 170W PoE budget.
AL3500?05-E6*	**ERS 3524GT** featuring 24 x 10/100/1000Mbps with 4 shared SFP ports (combo with ports 21-24) + 2 SFP / 2.5G rear ports.
AL3500?15-E6*	**ERS 3524GT-PWR+** featuring 24 x 10/100/1000Mbps PoE+ ports with 4 shared SFP ports (combo with ports 21-24) + 2 SFP / 2.5G rear ports. PoE budget 370W.

Notes:
- Each switch ships with Base software license.
- Stacking cables are not included and must be ordered separately for ERS 3500 24-port models.
- The seventh character (?) of the order number must be replaced with the proper letter to indicate desired product nationalization.

ERS 3500 Stacking Cables	
AL3518001-E6	ERS 3500 46cm Stack Cable
AL3518002-E6	ERS 3500 1.5m Stack Cable
AL3518003-E6	ERS 3500 3M Stack Cable

ERS 3500 Series Accessories	
AL3511001-E6	Standard set of 19” rack mount brackets - spare
AL3511002-E6	Optional accessory kit for joining two ERS 3510GT / ERS 3510GT-PWR+ switches together (side-by-side) to mount in a 19” rack.
AL3511003-E6	Optional accessory kit for mounting one ERS 3510GT or ERS 3510GT-PWR+ switch in a 19” rack.

Technical Specifications

Avaya Ethernet Routing Switch 3500 Standards Compliance

IEEE 802.1AB Link Layer Discovery Protocol (LLDP) and LLDP-Media Endpoint Discovery (LLDP-MED)
IEEE 802.1Q VLANs
IEEE 802.1p Priority Queues
IEEE 802.1D Spanning Tree
IEEE 802.1w Rapid Spanning Tree
IEEE 802.1s Multiple Spanning Tree Groups
IEEE 802.1X Ethernet Authentication Protocol (EAP)
IEEE 802.3 10BASE-T/ 100BASE-TX
IEEE 802.3u 100BASE-T (ANSI) Auto-Negotiation
IEEE 802.3x Pause Frames / Flow Control
IEEE 802.3z 1000BASE-X
IEEE 802.3ab 1000BASE-T
IEEE 802.3ad Link Aggregation Control Protocol (LACP)
IEEE 802.3af Power over Ethernet – PoE (15.4W)
IEEE 802.3at Power over Ethernet plus – PoE+ (32W)
RFC 783 Trivial File Transfer Protocol (TFTP)
RFC 791/950 Internet Protocol (IP)
RFC 792 Internet Control Message Protocol (ICMP)
RFC 826 Address Resolution Protocol (ARP)
RFC 854 Telnet Server and Client
RFC 951 / 1542 BOOTP
RFC 1112 Internet Group Management Protocol v1
RFC 1213 MIB-II
RFC 1215 SNMP Traps Definition
RFC 1271 / 1757 / 2819 RMON
RFC 1361 / 1769 Simple Network Time Protocol (SNTP)
RFC 1493 Bridge MIB
RFC 1573 / 2863 Interface MIB
RFC 1643 / 2665 Ethernet MIB
RFC 1905 / 3416 SNMP
RFC 1906 / 3417 SNMP Transport Mappings
RFC 1907 / 3418 SNMP MIB
RFC 1945 HTTP v1.0
RFC 1981 Path MTU Discovery for IPv6
RFC 2011 SNMP v2 MIB for IP
RFC 2012 SNMP v2 MIB for TCP
RFC 2013 SNMP v2 MIB for UDP
RFC 2131 DHCP Client
RFC 2132 DHCP Options 6, 43 & 60
RFC 2138 RADIUS
RFC 2236 Internet Group Management Protocol v2
RFC 2460 Internet Protocol v6 (IPv6) Specification
RFC 2461 Neighbor Discovery for IPv6
RFC 2462 IPv6 Auto-configuration of link local addresses
RFC 2474 Differentiated Services Support
RFC 2570 / 3410 SNMPv3
RFC 2571 / 3411 SNMP Frameworks
RFC 2572 / 3412 SNMP Message Processing
RFC 2573 / 3413 SNMPv3 Applications
RFC 2574 / 3414 SNMPv3 USM
RFC 2575 / 3415 SNMPv3 VACM
RFC 2576 / 3584 Co-existence of SNMP v1/v2/v3
RFC 2616 HTTP
RFC 2660 HTTPS (Secure Web)
RFC 2665 Ethernet MIB
RFC 2674 Q-Bridge MIB
RFC 2737 Entity MIBv2
RFC 2819 RMON MIB
RFC 2863 Interfaces Group MIB
RFC 2866 RADIUS Accounting
RFC 2869 RADIUS Extensions (interim updates)
RFC 3046 (& 5010) DHCP option 82, Relay Agent Information Option
RFC 3058 RADIUS Authentication.
RFC 3361 DHCP Option 120 SIP Servers
RFC 3376 Internet Group Management Protocol v3
RFC 3576 RADIUS Change of Authorization
RFC 4007 Scoped Address Architecture
RFC 4193 Unique Local IPv6 Unicast Addresses
RFC 4252 SSH
RFC 4291 IPv6 Addressing Architecture
RFC 4301 Security Architecture for the Internet Protocol
RFC 4432 SSHv2 RSA
RFC 4443 Internet Control Message Protocol (ICMPv6) Update to RFC2463
RFC 4675 RADIUS Attributes for VLAN and Priority Support
RFC 5859 TFTP Server DHCP option

General Performance

Switch Fabric performance: 12.8Gbps to 52Gbps

Frame forwarding rate: 9.5 to 38.7Mpps

Latency (64 byte packet LIFO): 2.4 to 3.6 microseconds (GE ports all models) and 7.9 microseconds (FE ports on the ERS 3526T/ERS 3526T-PWR+)

Frame length: 1522 bytes (including Q tag)

Jumbo Frame support: up to 9216 octets

MLT / 802.3ad LACP: 6 groups with 4 active trunks

Concurrently configured VLANs: 256

Egress queues: 4

Multiple Spanning Tree Groups: 8

MAC Address: up to 16,000

DHCP Snooping: up to 512 entries

802.1X Clients per port: 32

ARP Entries: up to 512

IP Interfaces: up to 32

RMON entries per port: 4 groups

ADAC (IP Phones): 32 per port

QoS filters per precedence: 256

QoS precedence: 4

QoS filters per switch: 1024

Pluggable Interfaces

100BASE-FX SFP up to 2km reach over MMF (Duplex LC)

1000BASE-T SFP up to 100m over CAT5E or better UTP Cable (RJ-45)

1000BASE-SX SFP up to 550m reach on MMF (Duplex LC)

1000BASE-LX SFP up to 550m reach on MMF, and up to 10 km on SMF (Duplex LC)

1000BASE-XD CDWM SFP up to 40 km reach on SMF (Duplex LC)

1000BASE-ZX CDWM SFP up to 70 km reach on SMF (Duplex LC)

1000BASE-EX SFP up to 120 km reach on SMF (Duplex LC)

1000BASE-BX SFP up to 10 and 40 km reach variants on SMF (LC)

Environmental Specifications

- Operating temperature: 32° and 122° F (0° and 50° C)
- Operating altitude: 10,000 ft.
- Storage temperature: -40C to 70C
- Storage altitude: 10,000 ft
- Acoustic noise (dB): ERS 3510GT => 0; ERS 3510GT-PWR+ => 36.4; ERS 3524GT = > 36.1; ERS 3524GT-PWR+ => 40; ERS 3526T => 0; ERS 3526T-PWR+ => 40.
- Operating humidity: 95% RH non condensing
- Storage humidity: 95% RH non-condensing
- No nearby heat sources such as hot air vents or direct sunlight
- No nearby sources of severe electromagnetic noise
- No excessive dust
- Adequate power source within six feet; one 15-Amp circuit required for each power supply.
- At least 5cm (2") on each side of the switch unit for ventilation

Safety Agency Approvals

- IEC 60950 International CB Certification
- EN 60950 European Certification
- UL60950 US certification
- CSA22.2, #60950 Canadian Certification
- NOM Mexican Certification

Electromagnetic Emissions and Immunity

- CISPR22, Class A/CISPR24 International
- EN55022, Class A/EN55024 European
- FCC, Part 15, Class A US Certification
- ICES-003, Class A Canadian Certification
- AN/NZS 3548 Australian/NZ Certification
- BSMI - Taiwan - CNS 13438, Class A
- MIC - Korea - MIC, No. 2001-116
- VCCI Class A Japanese Certification

[1]Miercom Lab Testing Summary Report "Plug and Play" Switches Aug.2011.

[2]Based on Avaya testing

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
03/13 • LB7028-04

AVAYA

The Power of We™

Avaya Ethernet Routing Switch 4800 Series

The Avaya Ethernet Routing Switch 4800 Series is a Stackable Chassis system providing high-performance, convergence-ready, secure and resilient Ethernet switching connectivity. Available in 4 model variants supporting 10/100/1000 switching and routing, Power-over-Ethernet/Power-over-Ethernet+ and 1 and 10 Gigabit Ethernet SFP+ uplink options, the Ethernet Routing Switch 4800 Series is ideally suited for your next-generation network edge deployments. The Ethernet Routing Switch 4800 are part of the 17 model Ethernet Routing Switch 4000 product family that meets your needs by enabling true mix and match capabilities.

Highlights Of The Ethernet Routing Switch 4800 Series

- **Always-on** – Best in class end-to-end resiliency solution, hot-swappable unit replacement within a Stack Chassis and integrated power redundancy.
- **Convergence-ready** – Support for PoE and PoE+, optimized for high-definition video surveillance, true plug and play capabilities for IP Phone deployments, advanced QoS capabilities.
- **Energy efficient** – On average 36% more energy efficient than competitive solutions,* energy saver functionality further reduces power consumption for both Switch and IP Phone without losing telephony connectivity.
- **Powerful** – Wire-speed performance, true pay-as-you-grow Stackable Chassis capabilities, delivering up to 400 ports and 384 Gbps of virtual backplane throughput.
- **Secure** – Standards-based 802.1x with integration with Avaya's Identity Engines portfolio for centralized, policy-based authenticated network access.
- **Flexible** – Mix-and-match best-in-class stacking capabilities with support for PoE/PoE+ and optional 1GbE / 10GbE SFP+ uplinks.
- **Future-ready** – Hardware ready for advanced services such as Wireless Split-Plane and Virtual Services Fabric; emerging technologies in Avaya's Virtual Enterprise Networking Architecture (VENA) strategy.

The Ethernet Routing Switch 4800 Series provide high bandwidth, resilient Stackable Chassis capabilities, high performance Layer 2 switching and Layer 3 routing, advanced convergence features and a full suite of security, QoS and management capabilities. The ERS 4800 hardware is based on a next-generation ASIC technology that combines wire-speed performance and non-blocking throughput with sophisticated QoS capabilities to support even the most demanding suite of applications.

Positioned for customers who are looking for Gigabit Ethernet to the desktop, PoE

*Miercom, August 2011

and PoE+, SFP+ connectivity and field replaceable redundant AC power supplies, the ERS 4800 provides a flexible high-performance platform to meet the demands of the converged edge.

Through support for PoE and PoE+ customers have the ability to support any mix of end devices. Although the vast majority of IP-based end points do not require the increased power that PoE+ delivers, its support provides piece of mind that as new devices are brought onto the network they can be supported regardless of the power requirements.

Integrated SFP+ ports deliver flexibility in terms of uplink speeds – allowing either 1 Gigabit or 10 Gigabit SFP+ devices to be installed. Customers can start with 1 Gig and then migrate to 10 Gigabit uplinks, as required.

Integrated field replaceable AC power supplies save cost and rack space. In addition, the ERS 4800 is hardware ready for advanced services such as wireless split-plane and the Avaya Virtual Services Fabric - emerging technologies in Avaya VENA. These services enable customer to deal effectively with the explosion of wireless traffic and the proliferation of HD video traffic while simplifying design, deployment and management of their next-generation network.

To ensure full interoperability across the complete ERS 4000 portfolio, the rear-mounted Stackable Chassis interfaces used on the ERS 4800 are consistent with those used on the other ERS 4000 models. Each ERS 4000 Stackable Chassis delivers up to 384 Gbps when eight units are combined.

Requirement	ERS 4500 Models	ERS 4500 PoE+ Models	ERS 4800 Models
Fast Ethernet to the desktop	Yes	Yes	Yes
Gigabit Ethernet to the desktop	Yes	No	Yes
IEEE 802.3 af PoE	Yes	Yes	Yes
IEEE 802.3 at PoE+	No	Yes	Yes
10 Gig Uplink sockets	XFP	No	SFP+
Redundant power	Yes - available through external RPS 15)	Yes – internal field-replaceable PSUs	Yes – internal field-replaceable PSUs
Hardware-ready for advanced services (Wireless Split-Plane, Virtual Services Fabric)	No	No	Yes

With 17 different models, the ERS 4000 Series offers a wide range of capabilities that meet a diverse range of edge requirements.

Summary

The ERS 4800 Series is a future-ready solution well suited for the next-generation wiring closet. Along with other Avaya products, the Ethernet Routing Switch 4800 Series can increase profitability and productivity, streamline business operations, lower costs and help your business gain a competitive edge.

Avaya Ethernet Routing Switch 4800 Series	
ERS 4826GTS	24 10/100/1000BASE-T ports, including 2 shared SFP Uplink ports, plus 2 additional SFP+ Uplink ports
ERS 4826GTS-PWR+	24 10/100/1000BASE-T ports supporting 802.3at PoE+, including 2 shared SFP Uplink ports, plus 2 additional SFP+ Uplink ports
ERS 4850GTS	48 10/100/1000BASE-T ports, including 2 shared SFP Uplink ports, plus 2 additional SFP+ Uplink ports
ERS 4850GTS-PWR+	48 10/100/1000BASE-T ports supporting 802.3at PoE+, including 2 shared SFP Uplink ports, plus 2 additional SFP+ Uplink ports

Product Specifications

ERS 4826GTS

Switch Details	24 10/100/1000 Gigabit Ethernet ports 2 shared SFP ports Plus 2 x 1/10Gigabit SFP+ ports Plus 2 x rear HiStack ports delivering up to 384Gbps of Stackable Chassis throughput System CPU operates at 533 MHz Switch is configured with 256MB RAM RJ-45 Console port provides industry standard serial port connectivity Ships with 1 x 46cm HiStack cable Ships with 1 set of 44mm/19" rack mount brackets (specific to the ERS 4800/ ERS 4500 POE+ models)
Dimensions:	4.4cm – 1RU (H), 44.0cm (W), 43.68cm (D)
Weight:	11.05 Kg
Power and Thermal	Supplied with 1 x 300 watt Field Replaceable AC power supply Supports addition of second Field Replaceable AC power supply for redundancy
Maximum PoE power	75 watts Thermal Rating 256 BTU/hr

ERS 4826GTS-PWR+

Switch Details	24 10/100/1000 Gigabit Ethernet ports 24 ports support both IEEE 802.3af POE and IEEE 802.3at POE+ 2 shared SFP ports Plus 2 x 1/10Gigabit SFP+ ports Plus 2 x rear HiStack ports delivering up to 384Gbps of Stackable Chassis throughput System CPU operates at 533 MHz Switch is configured with 256MB RAM RJ-45 Console port provides industry standard serial port connectivity Ships with 1 x 46cm HiStack cable Ships with 1 set of 44mm/19" rack mount brackets (specific to the ERS 4800/ ERS 4500 POE+ models)
Dimensions:	4.4cm – 1RU (H), 44.0cm (W), 43.68cm (D)
Weight:	11.50 Kg
Power and Thermal	Supplied with 1 x 1000 watt Field Replaceable AC power supply Supports addition of second Field Replaceable AC power supply for redundancy or additional PoE Maximum Power 88 watts (without PoE Load) Thermal Rating 300 BTU/hr
Maximum PoE power	855 watts when operating on one 1000w power supply 1855 watts when operating on two 1000w power supply

ERS 4850GTS

Switch Details	48 10/100/1000 Gigabit Ethernet ports 2 shared SFP ports Plus 2 x 1/10Gigabit SFP+ ports Plus 2 x rear HiStack ports delivering up to 384Gbps of Stackable Chassis throughput System CPU operates at 533 MHz Switch is configured with 256MB RAM RJ-45 Console port provides industry standard serial port connectivity Ships with 1 46cm HiStack cable Ships with 1 set of 44mm/19" rack mount brackets (specific to the ERS 4800/ ERS 4500 POE+ models)
Dimensions:	4.4cm – 1RU (H), 44.0cm (W), 43.68cm (D)
Weight:	11.48 Kg
Power and Thermal	Supplied with 1 x 300 watt Field Replaceable AC power supply Supports addition of second Field Replaceable AC power supply for redundancy Maximum Power 95 watts Thermal Rating 323 BTU/hr

ERS 4850GTS-PWR+

Switch Details	48 10/100/1000 Gigabit Ethernet ports 48ports support both IEEE 802.3af POE and IEEE 802.3at POE+ 2 shared SFP ports Plus 2 1/10Gigabit SFP+ ports Plus 2 rear HiStack ports delivering up to 384Gbps of Stackable Chassis throughput Ships with 1 46cm HiStack cable Ships with 1 set of 44mm/19" rack mount brackets (specific to the ERS 4800/ ERS 4500 POE+ models)
Dimensions:	4.4cm – 1RU (H), 44.0cm (W), 43.68cm (D)
Weight:	11.98 Kg
Power and Thermal	Supplied with 1 x 1000 watt Field Replaceable AC power supply Supports addition of second Field Replaceable AC power supply for redundancy or additional PoE Maximum Power 112 watts (without PoE Load) Thermal Rating 383 BTU/hr
Maximum PoE power	855 watts when operating on one 1000w power supply 1855 watts when operating on two 1000w power supply

General Performance

- Switch Fabric performance: 128Gbps to 184Gbps
- Frame forwarding rate: 66 to 102Mpps
- Stack Throughput: 384Gbps
- Latency (64 byte packet): 3.5 microseconds
- Jitter (64 byte packet): 0.84 microseconds
- Frame length: 64 to 1518 Bytes (802.1Q Untagged), 64 to 1522 bytes (802.1Q Tagged)
- Jumbo Frame support: up to 9,000 Bytes (802.1Q Tagged)
- Multi-Link/LAG Trunks: up to 32 Groups, with 8 Links per Group
- VLANs: up to 1,024 Port/Protocol/802.1Q-based
- Multiple Spanning Tree Groups: 8
- MAC Address: up to 8k
- DHCP Snooping: up to 1,024 table entries
- 802.1X Clients: up to 768
- LLDP Neighbors: up to 800
- ARP Entries: up to 1,792
- IP Interfaces: up to 64
- IPv4 Routes: up to 512
- OSPF Instances: up to 4
- OSPF Adjacencies: up to 16
- ECMP Paths: up to 4
- VRRP Instances: up to 256
- IPFIX Sampled Flows: up to 100,000

Pluggable Interfaces

- 1000BASE-T SFP up to 100m over CAT5E or better UTP Cable (RJ-45)
- 1000BASE-SX SFP up to 550m reach on MMF (Duplex LC)
- 1000-BASE-LX SFP up to 550m reach on MMF, and up to 10 km on SMF (Duplex LC)
- 1000BASE-XD CDWM SFP up to 40 km reach on SMF (Duplex LC)
- 1000BASE-ZX CDWM SFP up to 70 km reach on SMF (Duplex LC)
- 1000BASE-EX SFP up to 120 km reach on SMF (Duplex LC)
- 1000BASE-BX SFP up to 10 and 40 km reach variants on SMF (LC)
- 100BASE-FX SFP up to 2km reach over MMF (Duplex LC)
- Ethernet-over-T1 SFP up to 2,874m reach over 22AWG Cable (RJ-48C)
- 10GBASE-SR SFP+ up to 300m reach over MMF (Duplex LC)
- 10GBASE-LRM SFP+ up to 220m over FDDI-grade MMF (Duplex LC)
- 10GBASE-LR SFP+ up to 10km reach over SMF (Duplex LC)
- 10GBASE-ER SFP+ up to 40km reach over SMF (Duplex LC)
- 10GBASE-X SFP+ Direct Attach Cables, in 3, 5, & 10m lengths

Standards Compatibility

- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1w Rapid Spanning Tree
- IEEE 802.1s Multiple Spanning Tree Groups
- IEEE 802.1p Prioritizing
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1X Ethernet Authentication Protocol
- IEEE 802.1ab Link Layer Discovery Protocol
- IEEE 802.3 Ethernet
- IEEE 802.3u Fast Ethernet
- IEEE 802.3x Flow Control
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.3ab Gigabit Ethernet over Copper
- IEEE 802.3ad Link Aggregation
- IEEE 802.3ae 10Gbps Ethernet
- IEEE 802.3af Power-over-Ethernet
- IEEE 802.3at Power-over-Ethernet Plus
- RFC 768 UDP
- RFC 783 Trivial File Transfer Protocol
- RFC 791/950 IP
- RFC 792 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 854 Telnet
- RFC 894 IP over Ethernet
- RFC 951 BootP
- RFC 958 NTP
- RFC 1058 RIP v1
- RFC 1112 IGMPv1
- RFC 1157 SNMP
- RFC 1213 MIB-II
- RFC 1215 SNMP Traps Definition
- RFC 12711757 / 2819 RMON
- RFC 1350 TFTP
- RFC 1361/1769 Simple Network Time Protocol (SNTP)
- RFC 1493 Bridge MIB
- RFC 1583 OSPF v2

Standards Compatibility (cont.)	
RFC 1573/2863 Interface MIB	RFC 2866 RADIUS Accounting
RFC 1643/2665 Ethernet MIB	RFC 3046 DHCP Relay Agent Information Option
RFC 1757 RMON	RFC 3246 Expedited Forwarding
RFC 1850 OSPF v2 MIB	RFC 3410 SNMPv3
RFC 1905/3416 SNMP	RFC 3411 SNMP Frameworks
RFC 1906/3417 SNMP Transport Mappings	RFC 3412 SNMP Message Processing
RFC 1907/3418 SNMP MIB	RFC 3413 SNMPv3 Applications
RFC 1945 HTTP v1.0	RFC 3414 SNMPv3 USM
RFC 1981 Path MTU Discovery for IPv6	RFC 3415 SNMPv3 VACM
RFC 2011 SNMP v2 MIB for IP	RFC /3584 Co-existence of SNMP v1/v2/v3
RFC 2012 SNMP v2 MIB for TCP	RFC 3576 RADIUS
RFC 2013 SNMP v2 MIB for UDP	RFC 3768 Virtual Router Redundancy Protocol (VRRP)
RFC 2131 BootP/DHCP Relay Agent	RFC 3917 IP Flow Information Export
RFC 2138 RADIUS	RFC 3993 DHCP Subscriber-ID sub-option
RFC 2236 IGMPv2	RFC 3954 NetFlow Services Export v9
RFC 2328 OSPF v2	RFC 4007 Scoped Address Architecture
RFC 2453 RIP v2	RFC 4022 TCP MIB
RFC 2460 Internet Protocol v6	RFC 4113 UDP MIB
RFC 2461 Neighbour Discovery for IPv6	RFC 4291 IPv6 Addressing Architecture
RFC 2462 Auto-configuration of link local addresses	RFC 4293 IPv6
RFC 2474 DiffServ	RFC 4432 SSH RSA
RFC 2475 DiffServ	RFC 4673 RADIUS Dynamic Authorization Server MIB
RFC 2665 Ethernet MIB	RFC 4443 Internet Control Message Protocol (ICMPv6)
RFC 2674 Q-BRIDGE-MIB	RFC 4861 Neighbor Discovery for IPv6 (in v5.7)
RFC 2737 Entity MIBv2	RFC 4862 IPv6 Stateless Address Auto-Configuration (in v5.7)
RFC 2819 RMON MIB	RFC 5101 - Specification of the IP Flow Information Export (IPFIX)
RFC 2863 Interfaces Group MIB	RFC 5186 IGMPv3
RFC 2865 RADIUS	

Power Specifications	
up to 8.5A @ 100-120VAC	up to 4.3A @ 200-240VAC

Environmental Specifications	
Operating temperature: 0°C to 50°C (32°F to 122°F)	Operating altitude: 0 to 3,048m (0 to 10,000ft) maximum
Storage temperature: -40°C to 85°C (-13°F to 158°F)	Storage altitude: 0 to 12,192m (0 to 40,000ft) maximum
Operating humidity: 0 to 95% maximum relative humidity, non-condensing	Acoustic Noise:
Storage humidity: 10 to 90% maximum relative humidity, non-condensing	less than 50dbA at 35°C
	less than 57dbA at 50°C

Safety Agency Approvals

Global basis for certification: IEC 60950 current edition with all CB member deviations
CB Scheme Certification with Member Deviations
EN60950 Europe Safety (CE)
UL60950 United States of America Safety
CSA22.2, #60950 Canada Safety
NOM Mexico Safety
S-mark Argentine Safety
Anatel Brazilian Safety

Electromagnetic Emissions & Immunity

CISPR22 International EMC Emissions	ICES-003 Canadian EMC Emissions
CIRPR24 International EMC Immunity	VCCI Japan EMC Emissions
EN55022:2006 European EMC Emissions (CE)	AN/NZS 3548 Australia/New Zealand EMC Emissions
EN55024 European EMC Immunity (CE)	CNS13438 Taiwan EMC Emissions
EN61000	MIC Korean EMC Certification
Additional European EMC Specifications (CE)	Anatel Brazilian EMC Certification
FCC Part 15 US EMC Emissions	

MTBF Values

214,542 to 311,104 hours (24.49 to 35.31 years)

Warranty

Lifetime Next Business Day advanced hardware replacement	Optional Software Release Service also available: GW5300ASG / GW6300ASG
Lifetime Basic Technical Support	
90-Day Advanced Technical Support	

Country of Origin

China (PRC)

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
07/13 • DN4815-02

AVAYA

The Power of We™

Avaya Ethernet Routing Switch 5600 Series

Ethernet Routing Switch 5600 Series

The Avaya Ethernet Routing Switch 5600 Series is a premium Stackable Chassis system providing high-performance, convergence-ready, secure and resilient Ethernet switching connectivity. Available in 5 model variants supporting 10/100/1000 connectivity, switching, comprehensive Layer 3 routing, Power-over-Ethernet and 10 Gigabit Ethernet uplink options, the Ethernet Routing Switch 5500 Series is ideally suited for high-end wiring closets, high-capacity data centers and network core applications. The Ethernet Routing Switch 5600 Series is part of the 10 model Ethernet Switch 5000 Series which is 100% stack-compatible across the product family for true mix and match capabilities.

Highlights of the Ethernet Routing Switch 5600 Series

- **Always-on** – Best in class end-to-end resiliency, with switch clustering and hot-swappable unit replacement within a Stack Chassis.
- **Convergence-ready** – Support for PoE, true plug and play capabilities for IP phone deployments, advanced QoS capabilities.
- **Powerful** – Wire-speed performance, true pay-as-you-grow Stack Chassis capacity, delivering up to 400 ports and over 1 Terabit per second of virtual backplane throughput.
- **Comprehensive Layer 3 services** - Advanced routing features enable traffic segregation ideal for data center and network core applications.
- **Secure** – Standards-based 802.1x with integration to Avaya's Identity Engines portfolio for centralized, policy-based authenticated network access.
- **Flexible** – Mix-and-match "hybrid" stacking with the Avaya ERS 5500 Series enables versatile deployment and investment protection.

The Ethernet Routing Switch 5600 provides resilient Stackable Chassis capabilities, high-performance Layer 2 connectivity, Layer 3 routing and switch clustering for a truly flexible, multi-role platform. It can be positioned for any of the following customer scenarios:

- Enterprise wiring closet – with advanced convergence features, including PoE, comprehensive security, QoS and optional 10 Gig uplinks, the ERS 5600 is a flexible high-performance switching option for converged edge deployments. A high-density 96-port model also make it attractive to larger enterprises.
- Network core – its active / active "switch-clustering" failover and advanced Layer 3 routing services — unusual in a fixed-format switch — make the ERS 5600 a cost-effective core solution especially suited for small to mid-market enterprises.
- Data Center – as a cost-effective 1 Gigabit Top-of-Rack solution, the ERS 5600 can connect data center servers across racks while reducing latency and increasing server-to-server performance.

The Ethernet Routing Switch 5600 Series is 100% stack-compatible with Avaya's ERS 5500 Series. Its unique "hybrid-stacking" capability provides great versatility and investment protection across the ERS 5000 Series family. Any combination of 5500 and 5600 models can be stacked together up to eight units high, to a maximum of 400 ports. When stacked adjacent to ERS 5500 models, the stacking bandwidth is 80 Gbps per unit. When ERS 5600s are stacked directly together, stacking bandwidth increases to 144 Gbps per switch, and a total bandwidth of 1.152 Tbps across the eight switches.

The ERS 5600 Series also delivers highly-scalable and flexible Ethernet and Power-over-Ethernet, with high-density and ultra-density models to simplify deployment in high-intensity convergence-centric networks. Internal, removable, field replaceable AC and DC power supplies ensure both power redundancy and full PoE power.

Summary

The ERS 5600 is a flexible solution suited to address the various demands of today's high-end wiring centers, high-capacity data centers and network core environments. The ERS 5600, along with other Avaya products, can increase profitability and productivity, streamline business operations, lower costs and help your business gain a competitive edge.

Avaya Ethernet Routing Switch 5600 Series	
Model	**Link and Uplink Ports**
ERS 5632FD	24 x 100/1000BASE-SFP plus 8 x 10GBASE-XFP
ERS 5650TD	48 x 1000BASE-T plus 2 x 10GBASE-XFP
ERS 5650TD-PWR	48 x 1000BASE-T with Power-over-Ethernet plus 2 x 10GBASE-XFP
ERS 5698-TFD	96 x 1000BASE-T, including 6 x Combo 1000BASE-T or 100/1000BASE-SFP, plus 2 x 10GBASE-XFP
ERS 5698TFD-PWR	96 x 1000BASE-T with Power-over-Ethernet, including 6 x Combo 1000BASE-T or 100/1000BASE-SFP, plus 2 x 10GBASE-XFP

All switches include built-in ultra-speed stacking connections that can scale up to 1.152Tbps of total throughput and are fully compatible with the original ERS 5500 series models, and bays for field-replaceable power supplies. A full stack can include up to 8 switches or up to 400 ports, enabling a highly versatile solution able to meet port count and port type combinations for every application.

Specifications

General & Performance

- Switch Fabric performance: 288 – 384 Gbps
- Frame forwarding rate: 101.2 – 172.7 Mpps
- Latency: 9 µsec
- Jitter: 12-14 µsec
- Frame length: 64 – 1518 Bytes (802.1Q Untagged), 64 – 1522 bytes (802.1Q Tagged)
- Jumbo Frame support: up to 9,000 Bytes (802.1Q Tagged)
- Multi-Link Trunks: up to 32 Groups, with 8 Links per Group
- VLANs: up to 1,024 Port/Protocol/802.1Q-based
- Multiple Spanning Tree Groups: 8
- MAC Address: up to 16k
- DHCP Snooping: up to 1,024 table entries
- ARP Entries: up to 1,792
- IP Interfaces: up to 64
- IPv4 Routes: up to 4k
- OSPF Instances: up to 4
- OSPF Adjacencies: up to 16

Pluggable Interfaces

- 1000BASE-T up to 100m over CAT5E or better UTP Cable (RJ-45)
- 1000BASE-SX up to 550m reach on MMF (Duplex LC)
- 1000BASE-SX up to 550m reach on MMF (Duplex MTRJ)
- 1000-BASE-LX up to 550m reach on MMF, and up to 10 km on SMF (Duplex LC)
- 1000BASE-XD CDWM up to 40 km reach on SMF (Duplex LC)
- 1000BASE-ZX CDWM up to 70 km reach on SMF (Duplex LC)
- 1000BASE-EX up to 120 km reach on SMF (Duplex LC)
- 1000BASE-BX up to 10 and 40 km reach variants on SMF (LC)
- Ethernet-over-T1 up to 2,874m reach over 22AWG Cable (RJ-48C)
- 10GBASE-SR up to 300m reach over MMF (Duplex LC)
- 10GBASE-LRM up to 220m over FDDI-grade MMF (Duplex LC)
- 10GBASE-LR/LW up to 10km reach over SMF (Duplex LC)
- 10GBASE-ER/EW up to 40km reach over SMF (Duplex LC)
- 10GBASE-ZR/ZW up to 80km reach over SMF (Duplex LC)

Specifications (cont.)

IEEE & IETF Standards Compatibility

- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1p Prioritizing
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1X EAPoL
- IEEE 802.1s Multiple Spanning Tree Groups
- IEEE 802.1w Rapid Spanning Tree
- IEEE 802.1ab Link Layer Discovery Protocol
- IEEE 802.3 Ethernet
- IEEE 802.3 (ANSI) Auto-negotiation
- IEEE 802.3u Fast Ethernet
- IEEE 802.3x Flow Control
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.3ab Gigabit Ethernet over Copper
- IEEE 802.3ad Link Aggregation
- IEEE 802.3af Power over Ethernet
- RFC 768 UDP
- RFC 791/950 IP
- RFC 792 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 854 Telnet
- RFC 894 IP over Ethernet
- RFC 951 BootP
- RFC 1058 RIP v1
- RFC 1112 IGMPv1
- RFC 1157 SNMP
- RFC 1213 MIB-II
- RFC 1215 SNMP Traps Definition
- RFC 1271/1757/2819 RMON
- RFC 1350 TFTP
- RFC 1361/1769 Simple Network Time Protocol (SNTP)
- RFC 1493 Bridge MIB
- RFC 1573/2863 Interfaces Group MIB
- RFC 1583 OSPF v2
- RFC 1643/2665 Ethernet MIB
- RFC 1757 RMON
- RFC 1850 OSPF v2 MIB
- RFC 1905/3416 SNMP
- RFC 1906/3417 SNMP Transport Mappings
- RFC 1907/3418 SNMP MIB
- RFC 1945 HTTP v1.0
- RFC 1981 Path MTU Discovery for IPv6
- RFC 2011 SNMPv2 MIB for IP
- RFC 2012 SNMPv2 MIB for TCP
- RFC 2013 SNMPv2 MIB for UDP
- RFC 2131 BootP/DHCP Relay Agent
- RFC 2138 RADIUS
- RFC 2236 IGMPv2
- RFC 2328 OSPF v2
- RFC 2453 RIP v2
- RFC 2460 IPv6 Specification
- RFC 2461 Neighbor Discovery for IPv6
- RFC 2462 IPv6 Auto-configuration of link local addresses
- RFC 2474 DiffServ
- RFC 2475 DiffServ
- RFC 2576/3584 Co-existence of SNMP v1/v2/v3
- RFC 2660 HTTPS (Secure Web Server)
- RFC 2674 Q-BRIDGE-MIB
- RFC 2737 Entity MIBv2
- RFC 2819 RMON MIB
- RFC 2865 RADIUS
- RFC 2866 RADIUS Accounting
- RFC 2869 RADIUS Extensions
- RFC 3046 DHCP Relay Agent Information Option
- RFC 3164 BSD Syslog Protocol
- RFC 3315 DHCP for IPv6
- RFC 3410 SNMPv3
- RFC 3411 SNMP Frameworks
- RFC 3412 SNMP Message Processing
- RFC 3413 SNMPv3 Applications
- RFC 3414 SNMPv3 USM
- RFC 3415 SNMPv3 VACM
- RFC 3576 RADIUS
- RFC 3917 IP Flow Information Export
- RFC 3993 DHCP Subscriber-ID sub-option
- RFC 3954 NetFlow Services Export v9
- RFC 4007 Scoped Address Architecture
- RFC 4022 TCP MIB
- RFC 4113 UDP MIB
- RFC 4193 Unique Local IPv6 Unicast Addresses
- RFC 4291 IPv6 Addressing Architecture
- RFC 4293 IPv6
- RFC 4443 Internet Control Message Protocol (ICMPv6)
- RFC 4861 Neighbor Discovery for IPv6 (in v6.6)
- RFC 4862 IPv6 Stateless Address Auto-Configuration (in v6.6)
- RFC 4673 RADIUS Dynamic Authorization Server MIB
- RFC 4675 RADIUS Attributes for VLAN and Priority Support

Weights & Dimensions

- Height: 4.37 – 87.4 cm, 1 – 2 RU
- Width: 43.82 cm
- Depth: 36.82 cm
- Weight: 6.6 – 15.2 kg

Power Specifications

- Input Voltage: 100-240 VAC
- Input Current
  - 1.2 – 19.05A @ 100-120 VAC
  - 0.6 – 9.5 @ 200-240 VAC
- Power Consumption: 132 – 545 W
- Thermal Rating: 450 – 1,850 Btu/h

Environmental Specifications

- Operating temperature: 0 – 50°C
- Storage temperature: -40 to 85°C
- Operating humidity: 5 – 95% maximum relative humidity, non-condensing
- Storage humidity: 10 to 90% maximum relative humidity, non-condensing
- Operating altitude: 0 to 3,692 maximum
- Storage altitude: 0 to 12,192 maximum
- Acoustic Noise: less than 45 – 55dB at 35°C

Safety Agency Approvals

- Global basis for certification: EN 60950 current edition with CB national member deviations
- Mexico: complies with NOM

Electromagnetic Emissions & Immunity

- Global basis for certification: CISPR 22 Class A & CISPR 24, IEC 60950 with CB member national deviations
- US: complies with FCC CFR47 Part 15
- Canada: complies with ICES Class A
- Europe: complies with EN 55022 Class A; EN 55024; EN 300386 V1.3.3 Class A
- European Union & EFTA: complies with EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3
- Japan/Nippon: complies with VCCI
- Taiwan: complies with BSMI CNS 13428 & 14336, Class A
- Korea: complies with MIC Class A

Specifications (cont.)

Redundant Power

- ERS 5650/5632 up to 2 field-replaceable internal Power Supplies
- ERS 5698 up to 3 field-replaceable internal Power Supplies
- Available PSUs: 300, 600, 1000W AC and 300, 1000W DC

MTBF Values

- 123,508 hours (14.0 years)

Warranty

- Lifetime Next Business Day hardware replacement
- Lifetime Basic Technical Support
- 90-Day Advanced Technical Support
- Optional Software Release Service also available: GW5300ASG / GW6300ASG

Country of Origin

- China (PRC)

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
07/13 • DN5100-04

AVAYA

The Power of We™

Avaya Ethernet Routing Switch 8800

Resilient, flexible, and scalable, the Avaya Ethernet Routing Switch 8800 delivers full-featured network virtualization, exceptional value and cost-effectiveness.

Companies turn to technology to help boost the bottom line and to increase productivity, advances in one area of technology can often lead to real challenges in others. Virtualization is a case in point, particularly when it comes to efficiently connecting a myriad of disparate applications and systems – many now virtualized – across multiple locations.

Virtualization can transform your IT infrastructure and your business by providing a clear path to advanced applications that create a distinct competitive advantage. Virtualization delivers flexibility and scalability, and enables faster activation of new services in data centers and across the campus. Leveraging high-availability and high-performance, virtualizing servers and consolidating services delivers benefits such as accelerated decision making, decreased recurring costs, increased productivity and simplified management.

The Avaya ERS 8800 offers exciting new possibilities with the Avaya VENA Fabric Connect capability, based on the Shortest Path Bridging (SPB) standard from the IEEE. Leveraging the power of this standardized technology, together with unique, value-added extensions, Avaya delivers a solution that is genuinely enterprise-ready and truly optimized. The Fabric Connect solution extends beyond the data center into the core of the campus: it offers simplified configuration and management, including efficient service activation free of error and delay, optimized traffic separation that enables multi-tenant partitioning and regulatory compliance, and delivers the industry's only optimized end-to-end Cloud architecture. Avaya VENA Fabric Connect creates a new approach to data networking, one that helps enterprises fully reap the benefits of virtualization, in a more simplified and cost-effective manner. This technology utilizes a new, end-to-end enterprise-wide architecture to help CIOs and IT departments meet the surging demand for new content and business collaboration applications.

Highlights of the Ethernet Routing Switch 8800

- Innovates with Avaya VENA Fabric Connect; delivering game-changing Layer 2 and Layer 3 virtualization capabilities for the data center and beyond
- Simplified configuration & management including efficient service activation – free of error and delay
- Optimized traffic separation - helping to ensure multi-tenant partitioning & regulatory compliance
- Delivers the only optimized end-to-end cloud architecture
- Offers the Industry's leading resiliency model – Avaya Switch Clustering – empowering the most demanding applications and boosting performance by forwarding Layer 2 & 3 traffic across all available links
- Features unique field-reprogrammable NPU-based Interface Modules that, unlike conventional ASIC-based hardware, maintain full hardware-based performance and optimization as functionality and services evolve
- Enables flexible virtualized Layer 3 deployment scenarios with device and network options: VRF-Lite, the innovative Avaya IP VPN-Lite, MPLS, & IETF IP VPN
- Enables consistent IP VPN services delivered across the campus and metro; leveraging the same infrastructure to seamlessly extend service provider MPLS-networks into the LAN
- Supports high-performance IPv6 networking – a key scalability tool for demanding and expanding networks
- Offers high-density 10G, very high-density Gigabit and 10/100/1000 Ethernet for enterprise core and aggregation applications, delivering competitively-high value, flexibility, and enhanced slot conservation with a Combo option
- Best-in-class Switch Clustering resiliency model is extended to VMware Server virtualization in an iSCSI storage area network environment

- Supported by a unified management framework featuring consistent AJAX-compliant web-based common services, authentication and audit logging, also benchmarks network traffic and identifies anomalous behavior using Standards-based IP Flow Information Export (IPFIX)

The Ethernet Routing Switch 8800 meets demanding enterprise-class requirements for scalability, simplification, maximized application uptime, value, and security. It reduces network design complexity by simplifying the network architecture and increasing per port value with advanced features on high-density modules.

In addition to the capabilities offered by Avaya Fabric Connect, multiple options are available with the ERS 8800 for creating IP Virtual Private Networking solutions across the entire enterprise. Avaya Layer 3 virtualization is simple, flexible, and easy to deploy – and doesn't require adjustments to your existing infrastructure, requiring no additional capital equipment expenditures. Because solutions are standards-based and use well-understood IP techniques, less training time is required. This can reduce operational costs when compared to the knowledge transfer requirement of rival offerings.

Providing leading Ethernet port densities, the Avaya ERS 8800 delivers the infrastructure for a highly reliable network that empowers unified communications and other business-critical applications.

Key enabling technologies for improved business collaborative include highly-effective unified communications; crucial to a successful deployment is the selection and implementation of a reliable and versatile infrastructure that will help ensure constant availability.

New for the 7.2 release:

- Introducing support for the Avaya VENA Unified Access solution; the ERS 8800 delivers the data path optimization component
- Enhancing the Avaya VENA Fabric Connect capability with the introduction of the Multicast-over-SPB feature. This feature concurrently supports three deployment scenarios:
  - L2 Virtual Service Networks with Multicast
  - L3 Virtual Service Networks with Multicast
  - IP Shortcuts with Multicast

Avaya VENA Unified Access

Balancing cost, performance, and accessibility is a case of perpetual tradeoff in today's WLANs – none of the traditional architectural approaches provides a satisfactory resolution. A new solution is needed, one that leverages the power of the centralized WLAN Controller without sacrificing performance, but also allowing for cost-effective distribution of WLAN Access Points. The answer is Avaya VENA Unified Access.

Instead of focusing solely on whether the data plane is best handled in the WLAN Access Point or the WLAN Controller, the Unified Access approach integrates the wireless data plane directly into the wired networking infrastructure – completely decoupled from the classic WLAN components. In effect, this makes the hardware burden for switching WLAN traffic simply disappear.

Here's how: traditional Ethernet Switches already have most of the capabilities to handle WLAN traffic natively – the issue is not processing power, but a lack of awareness of the mobility context for roaming sessions; that is, when a mobile device that has moved around the campus and therefore has an IP Address from a new subnet. To facilitate efficient coordination with the WLAN control plane, and a lightweight mobility agent added to the switch (this will program switching tables in real-time as sessions move), this awareness is easily incorporated. It makes much more sense to leverage the power of the wired network, rather than hamstring the WLAN by inserting software switching points through out, or backhauling it all to another location just to make switching decisions.

Delivering ubiquitous access to enterprise applications and unified communications tools can have dramatic impact on enterprise productivity and performance. Avaya is delivering this with its Unified Access solution. By integrating the wireless data plane with the wired data network - specifically the ERS 8800 - the solution overcomes the disadvantages of both the centralized and distributed approaches and creates a scalable, reliable, high-performance architecture; perfect for 'Era of Mobility'.

The Avaya VENA Unified Access solution delivers:

- Genuine, next-generation scalability and performance
- Real high-availability and robustness
- A consistent access control solution
- Lower equipment and operational costs
- Enables virtualization of the control plane
- Unifies wired and wireless management

Unified Access delivers the intelligent edge, one that helps reduce the enterprise's total costs through the efficiencies of a network that is smart enough to authenticate, auto-provision, and provide security, all without constant intervention by the network administrator. The future is now, Avaya is delivering this today with its Unified Access and Identity Engines authenticated network access solutions.

Multicast enhancements to Avaya VENA Fabric Connect

Many of today's networks are constrained when attempting to make use of applications that require Multicast. The problems include inefficient bridged IP Multicast configurations, or routed IP Multicast that requires complex protocols; making networks burdensome to configure and operate. With the 7.2 software release, the ERS 8800 builds on the simplicity and agility introduced with the Avaya VENA Fabric Connect capability, by leveraging extensions to the Shortest Path Bridging (SPB) technology, that support a truly optimized Multicast solution.

Both Bridged and Routed IP Multicast traffic are supported, avoiding the inefficiencies or complexities that exist today, without any additional technology or protocols. This optimized functionality is achieved by the straightforward expediency of extending SPB's control plane to exchange advertisement and membership information for IP Multicast streams. This innovative means that Fabric Connect now provides a complete solution for Layer 2 Unicast, Broadcast, and Multicast virtualization, as well as Layer 3 Unicast and Multicast routing and forwarding virtualization.

The Multicast over SPB feature supports three operational modes:

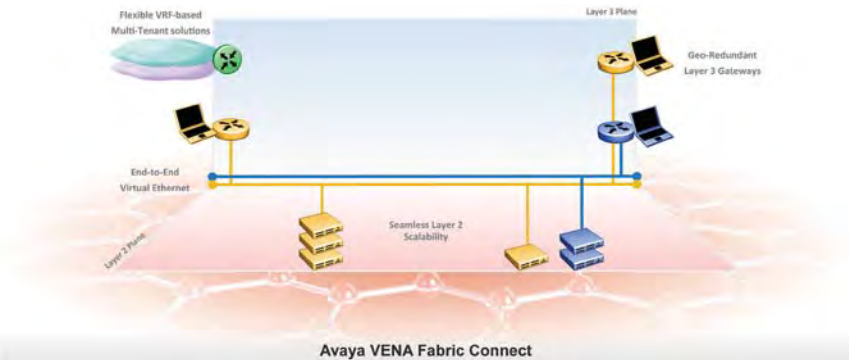
- L2 VSN with Multicast – Virtual Services Networks with IGMP configured on access networks delivering optimized forwarding of Multicast traffic in a bridged environment
- L3 VSN with Multicast – Virtual Services Network with VRF-based Routed IP Multicast configured within the Fabric and IGMP configured on access networks
- IP Shortcuts with Multicast – Routed IP Multicast leveraging the Global Routing Table for direct, Layer 3 reachability within the Fabric and IGMP configured on access networks

The benefits of this innovation center around the simplicity of configuration and the optimization of how Multicast-based applications operate. The absence of a Root Bridge requirement – with no election process and no blocked links – is itself a major step forward in terms of efficiency and availability. Added to this, leveraging further extensions to the SPB model enable Avaya to deliver a solution that is agile, flexible, simple, stable, highly scalable, and notable for the ability to be quickly deployed; time-to-service being the catchword for modern businesses.

What is Avaya VENA?

- Avaya Virtual Enterprise Network Architecture (Avaya VENA) allows organizations to more easily optimize business applications and service deployments in and between data centers and campuses
- Avaya VENA helps reduce costs and can significantly improve time to service by more efficiently optimizing the network connections between application servers and end users – essentially providing an end-to-end connection from the desktop all the way to the data center
- It can also reduce risks for CIOs by simplifying provisioning and policy configurations, reducing network re-designs, and providing new, streamlined tools for network management
- It can simplify device and network configuration; replaces multiple existing technologies with a single unified technology
- It can optimize connectivity and resource availability/utilization; is not constrained by physical topology and works equally well with mesh or ring installations, small or large
- It can increase stability and scalability; decoupling the network core from user/application transport providing a completely robust solution
- It pushes configuration out to the edge of the cloud, automates connectivity, and can dramatically improve time-to-service; can remove any need to re-configure the core, removing the risk of human error, and it also empowers provisioning on the fly
- It can seamlessly expand from the data center – where most demand exists today – out to the greater campus and beyond to the broader enterprise; delivering streamlined end-to-end connectivity from users to their content, all using one consistent technology and design model

To find out more about Avaya VENA please visit us at:
www.avaya.com/vena



Avaya VENA Fabric Connect

Resiliency, intelligence and scalability without design complexity

The Avaya ERS 8800 is a proven, tested, resilient, and intelligent network solution that scales, delivering to the core of the network hundreds of Gigabits per second (Gbps) and hundreds of millions of packets per second (Mpps) of real-world performance. Its flexible architecture reduces the complexity of network design, making it ideal for large-scale enterprise campuses.

The ERS 8800 is a balanced solution, unconstrained by bottlenecks imposed by inferior designs. In addition to establishing a solid foundation for traditional unified communications, the ERS 8800 delivers a flexible networking infrastructure that fosters growth by enabling businesses to leverage new, emerging applications and technologies with a unique architecture which provides optimum performance.

Always-on availability

Network resiliency is a basic mandatory requirement when implementing a modern unified network. The ERS 8800 supports redundant connectivity for virtualized solutions with technologies such as Avaya VENA Fabric Connect, VRF-Lite, VPN-Lite, and MPLS LER IP-VPN for Edge networks.

Avaya Fabric Connect is built on enhanced IEEE Shortest Path Bridging to provide resiliency, simplicity and a consistent interconnect that transparently supports co-existing services. Fabric Connect spans the network and enables one-touch provisioning for a full range of capabilities provided by

Real-world scenario: the NPU advantage

A well-known rival product – one of the many that utilize traditional ASIC technology – is only able to deliver IPv6 forwarding performance at 50% of the levels claimed for IPv4. This is a prime example of how newer features cannot be guaranteed at the same hardware-based performance levels unless there is an ability to upgrade the architecture; this is the advantage that the Avaya unique NPU design provides, and we continue to leverage this for evolving and emerging functionality such as network virtualization and Shortest Path Bridging-based Fabric Connect.

multiple Virtual Services Networks (VSNs). This architecture can increase flexibility and scalability by delivering an infrastructure that creates a 'private cloud', to deliver always-on content and access to applications in a dramatically simplified model. This approach also can protect enterprises' core networks from the costly failures and human-error issues that are often experienced by the traditional, complicated process of provisioning applications in a virtualized environment.

To provide maximum protection, the ERS 8800 addresses resiliency at multiple levels. At the hardware level, the switch provides hot-swappable modules and fan trays along with N+1 and dual input power supplies. Its software delivers resiliency for the core with Industry-leading features that include Virtual Link Aggregation Control Protocol (VLACP) for Layer 1-2 link failure detection, Bi-Directionally Forwarding Detection (BFD) for Layer 3 link failure detection, and Switching Clustering that leverages our pioneering Split Multi-Link Trunking (SMLT), Routed Split Multi-Link Trunking (R-SMLT), and VRRP Active/Active technologies.

Additionally, organizations are encouraged to dual-connect servers and, with minimum additional investment, the sub-second failover advantage is automatically extended beyond the boundary of the networking equipment, all the way to the application host. Competitive solutions, basing their failure recovery model on variations of the Spanning Tree Protocol, cannot provide a comparable level of resiliency and simplicity.

Future-proofing the network

Network devices must be able to distinguish different traffic types and to handle different traffic requirements. A sense of traffic class awareness combined with the ability to process each type uniquely sets the intelligent network apart from common-place offerings. The ERS 8800 combines intelligence and performance to create a next-generation intelligent network solution.

The networking industry is a perpetual work-in-progress, an 'unfinished masterpiece', and the number of standards now runs into the thousands. Equipment that is based on a ASIC traditional architecture is limited in that the functionality of these chipsets are set at a certain point in time and cannot easily adapt to future change. Typically this means that newer features and functionality are no longer supported only in hardware and require additional software processing. The switching architecture of the ERS 8800 is uniquely based on Network Processing Units (NPU) rather than the ASIC technology typically found in rival products. NPUs are large-scale CPU arrays specifically designed for network-related functions such as efficient examination and manipulation of packet headers. The specialized high-performance NPU of Avaya is known as the Route Switch Processor (RSP) and is an in-house development. It delivers fast-path, protected for the lifecycle of the product, through its ability to support in-life firmware upgrades and provides 10Gbps line rate switching and routing capabilities regardless of standards evolution. Avaya has been able to leverage this re-programmable capability to deliver new innovative features, such as IPv6, our flexible IP VPN suite, and the new Fabric Connect capabilities, and is unique in being able to help ensure emerging functionality is continuously delivered with hardware-based performance levels.

The ERS 8800 reduces complexity and risk in network design by simplifying the network architecture and increasing value with advanced features on high-density modules. High port density, combined with rich capabilities and leading reliability

ERS 8800 3-Slot Switch

ERS 8800 6-Slot Switch

RSP-based Interface Modules

ERS 8800 - 10-Slot Switch

technologies, deliver exceptionally high value to the enterprise. Avaya RSP technology, based on this flexible NPU architecture, offers investment protection with an in-field firmware upgrade capability, and helps ensure that the ERS 8800 remains ever-green, always delivering hardware-based performance.

Innovative options

Flexible and Scalable

The ERS 8800 is available in multiple Chassis options: a 10-Slot featuring eight Slots for Interface Modules; a 6-Slot featuring four Slots for Interface Modules; and a 3-Slot featuring two Slots for Interface Modules. This enables the ERS 8800 to be deployed in a variety of deployment scenarios, always helping to ensure the optimum mix of flexibility, capacity, and cost-effectiveness. There is also the 8010co Central Office – 10-Slot Chassis which is NEBS-compliant for deployments scenarios that require a carrier-class platform.

The 8895SF Switch Fabric/CPU Module is the latest version and offers significant enhancements in terms of CPU performance and Memory capacity; it is also 50% more energy-efficient. These advances allow the 8895SF to natively support both existing and emerging services and applications that place intense demands on the networking infrastructure. The 8895SF is functionally equivalent to the previous 8692SF Switch Fabric/CPU Module when upgraded with the Enterprise Enhanced CPU Daughterboard (aka SuperMezz).

Versatile Interface Options

The ERS 8800 supports an innovative hybrid combination module that concurrently supports 10G Ethernet (x2), 1000BASE-X (x24), and 10/100/1000 (x8) ports; economical, flexible and a class-first, this 'combo' module meets the demands of smaller aggregation sites. It is an affordable solution providing all the functionality many enterprises need in one convenient and cost-effective module.

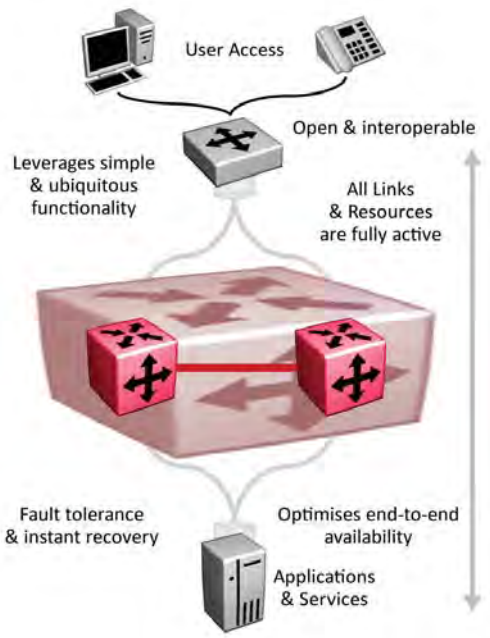
The range of high-performance I/O module options offer a number of practical options, and these include a high-density 10G Ethernet (12 ports per module and up to 96 ports per Chassis) and high-density 48-port modules support 10/100/1000 Copper or 1000BASE-X SFP connectivity. These latest generation 8800-Series Interface Modules featuring the RSP 2.7 network processing units, enable the ERS 8800 to deliver enhanced mirroring capabilities, including one-to-many, many-to-one and many-to-many mirroring for sophisticated traffic analysis and IDS/TPS clustering.

Applications: new capabilities & choices optimize communications

Through advanced capabilities including Avaya Fabric Connect, VRF-Lite, IP VPN-Lite, and MPLS-based IP VPN, the ERS 8800 enables virtual services across campus and metro environments to address new business requirements and applications. For example, a university seeking to connect several campuses can choose traditional MPLS technology or can leverage the innovative Avaya IP VPN-Lite solution, and where an Ethernet-based MAN is available, transition directly to enhanced and extended SPB.

SPB is based on an open standard, 802.1aq developed by the IEEE (Institute of Electrical and Electronic Engineers). Being both standardized and open this means that as other vendors also introduce support for SPB there is a genuine opportunity for interworking between different devices from different suppliers; empowering customers with more freedom. SPB has been described as "Layer 2 Routing", and there is a developing requirement to operate much of the data center network at Layer 2 (as opposed to Layer 3).

As virtualization becomes more widely deployed, networks will inherently become much more dynamic than they are today, and having an end-to-end solution that simplifies the perpetual adds, moves and changes will become crucial – especially given the fact that human error in provisioning new services accounts for almost 40% of all network downtime. This is just as important in the campus network as it is in the data center; Avaya, like our customers, understands that availability is an end-to-end equation.



Switch Clustering

With the Avaya VENA Fabric Connect capability, virtual networks can be created in seconds with single touch provisioning. The core is built out and provisioned one time and when new virtual networks are required - either to support new communities of interest or new applications - they are enabled solely at the edge of the network without requiring any manual provisioning of the core. This reduces service activation from the days and months, necessitated by today's legacy networks, to minutes and seconds. It essentially eliminates the human error factor and thereby dramatically increases network availability.

In many organizations, the network requires a total separation of traffic. This could be for regulatory or security reasons or it could be because a central IT organization has to support departments or subsidiary companies, each with their own unique needs, however at the same time all requiring access to a common set of business applications or services. With the extension of the Avaya VENA Fabric Connect capability into the campus network, setting up each of these distinct communities of interest is both simplified and optimized. Now, traffic separation can be truly end-to-end, without traffic being re-combined into shared networks

within the core; a very common limitation of legacy networks.

Avaya is the vendor creating an enterprise-wide model for delivering highly resilient access to applications and services with light-touch provisioning. This ultimately reduces operational expenses and simplifies the overall management of the infrastructure. Avaya has defined a single consistent model that spans from user to content, one that retains the most efficient elements of our proven always-on heritage together with the advantages of a sophisticated, standards-based and carrier-proven capability. Crucially, Avaya Fabric Connect does not suffer from the typically limitations of single points-of-failure and the need to interconnect differing forms of technology, one for the data center and others for the campus and MAN/WAN.

Virtual Routing and Forwarding (VRF-Lite)

Through VRF-Lite on ERS 8800, enterprises can use the same hardware platform to create multiple Layer 3 routing domains to support multiple customers and to maintain separation for both Unicast and Multicast traffic.

The VRF-Lite capability virtualizes routing within the switch, addressing business and networking challenges driven by activities such as mergers and acquisitions, data center consolidation, departmental or business unit segmentation, and evolving audit and compliance requirements. By enabling the switch to have multiple routing instances (up to 255), more sophisticated connections can be enabled in addition to support for overlapping IP Addresses. Complete and total traffic separation at Layers 2 and 3 is the usual practice, however the system can be configured to provide inter-VRF forwarding capabilities, allowing shared access to common resources.

Virtual Private Networking through IP VPN-Lite

The Avaya IP VPN-Lite capability is an innovative IP-in-IP technology that delivers VPN services that are easier to implement, deploy, and manage. With IP VPN-Lite, enterprises can build any-to-any private connections between local or geographically dispersed sites using any IP infrastructure (private networks or via a public IP Service Provider).

IP VPNs are typically used for cross-location connectivity and to create trusted connections to external partner organizations, leveraging IP as the common carriage and removing dependency on specific wide area technologies (such as Frame Relay or ATM) or exclusivity to a single service provider. Avaya IP VPN-Lite solution is inherently less complex and therefore much more cost-effective than using a full MPLS alternative. Managing IP VPN-Lite versus MPLS is simpler and does not require specialized carrier-class IT skills or resources. The foundation of IP VPN-Lite is simply an IP network, using the flexible RFC 2547/4364 connectivity model and it does not require an MPLS-enabled core

Real-world scenario: Avaya Fabric Connect

"Metro City" has a large number of departments – each with their own systems and applications – but each requiring access to some shared resources. Due to the sensitive nature of some of the traffic within these departments, providing complete isolation of traffic is of paramount importance. Because of budget constraints, "Metro City" was looking for a cost-effective solution that would be easy to manage and maintain in order to keep on-going operational costs low. As one of their primary cost reduction initiatives they are looking at server virtualization in their data center, and at potentially mobilizing virtual machines in the future.

"Metro City" chose to evolve their network with the Avaya ERS 8800, with which they can very easily establish distinct virtual networks to support each of their different departments. Since some of these departments carry sensitive traffic they liked that Avaya VENA's architecture provides end-to-end traffic isolation – and unlike today's legacy implementations – traffic is not recombined into shared networks in the core. They also liked the flexibility in setting up these different virtual multi-tenant networks since they can be enabled either at Layer 2 or at Layer 3 (by mapping, respectively, VLANs or VRFs to service Instances for transport over the end-to-end Fabric Connect solution).

Since their migration to data center virtualization was to occur progressively, "Metro City" appreciated the fact that Avaya's architecture could be enabled in parallel with all other protocols presently in use on the network and there would be no need to change physical connections or existing configurations; they could migrate at their own pace, in a non-disruptive manner.

infrastructure. This simplified solution can scale per carrier-class MPLS with the cost-effective simplicity of a solution designed specifically for the enterprise. Delivering total flexibility, the ERS 8800 supports classic MPLS in addition to IP VPN-Lite and VRF-Lite and all VPN technologies can be concurrently leveraged to deliver individually tailored solutions.

Multi-Protocol Label Switching (MPLS)

MPLS forms the basis for most service provider IP VPNs and is used in most WAN solutions because it delivers sophisticated connectivity and traffic engineering techniques. By implementing this same functionality the ERS 8800 can interoperate directly with third party MPLS networks and participate in their IP VPNs, extending them into the enterprise campus network as required. Enterprise architects can leverage this interoperability to create ERS 8800-based MPLS environments that increase the overall level of transparency.

Enterprise-class and enterprise-ready: fit-for-purpose

Multicast Virtualization

Multicast virtualization of IGMP and PIM-SM/SSM, along with Unicast virtualization, is supported on the same system by leveraging VRF-Lite. This extends the benefit of simplified network design, less investment in hardware, lower operational expense; all of which is supported by the best-in-class Switch Clustering resiliency.

Avaya Automatic QoS

With Avaya Automatic QoS, an ERS 8800 supporting an Avaya Unified Communications solution automatically recognizes the special, private Differentiated Service Code Point (DSCP) values used by specific Avaya VoIP applications and optimizes the management of egress queues. Without this functionality, operators would require detailed knowledge of how QoS works and the private DSCP values in order to manually configure optimized queue usage. With this feature, the process is automated, optimized, and protects against errors in configuration.

Real-world scenario: multi-tenant operations

An airport handling a large amount of traffic from multiple national and international airlines and local on-site businesses, seeks a networking solution that maximizes application uptime, safeguards information, and delivers excellent business value. By choosing the Ethernet Routing Switch 8800 with its versatile Fabric Connect networking capabilities, the airport supports all of these communities and keeps traffic segregated using a single, cost-effective hardware platform that is easy to implement and manage.

Management and Visibility

The ERS 8800 can be managed by a variety of management tools, creating a flexible operational environment based on business requirements. These include: standardized Command Line Interface (CLI), Web-based Enterprise Device Manager (EDM), SNMP-based management (SNMPv1, v2 & v3), and the Avaya Data Solutions Management framework provides for comprehensive, centralized, and multi-facetted network management. This framework is based on Common Services – authentication and access control, audit, etc – and then a number of integrated AJAX-based plug-in applets that deliver seamless task-specific capabilities all with a consistent look and feel: Configuration and Orchestration Management; Visualization, Performance, and Fault Management; IP Flow Manager; and the Virtualization Provisioning Service.

Provision Wizards and other labor-saving tools provide faster service activation and more consistent approach to configuration; this has the added benefit of reducing human-error, as templates are pre-populated with best-practice recommendations or required values. The entire framework is context-based which enables a faster, more accurate and highly-intelligent approach to delivering both device-centric and network-wide management services.

The ERS 8800 also supports enhanced system-wide troubleshooting information providing comprehensive information should the CPU need to recover automatically. The Key Health Indicators (KHI) capability allows for the collection of statistics and information about system health for troubleshooting purposes, and identifies a small number of key health indicators that allow quick assessment of the overall operational state. Additional sophisticated system analysis tools such as RSP Packet Tracing and ERCD Records Dump enhance the serviceability and operational posture of the ERS 8800 platform.

Why choose Avaya?

Avaya offers multiple, flexible options that enable virtualized solutions across the campus including the standards-based Avaya Fabric Connect capability and the innovative IP VPN-Lite. The unique design architecture of the future-ready NPU-based Interface Modules sets Avaya apart; delivering optimal functionality and performance as new applications and services emerge, and offers high density and exceptional port value. The Combo Module – supporting Copper 10/100/1000, SFP, and XFP interfaces – cost-effectively meets the requirements of smaller sites. Avaya is the solution vendor to offer best-in-class resiliency for Unicast, Multicast, Virtualized, and IPv6 environments.

Summary

The Ethernet Routing Switch 8800 is a resilient, efficient, scalable solution that enables enterprises to build a truly unified communication-ready network infrastructure and provide reliable business continuity for critical applications; enterprises can scale converged and web applications network-wide with always-on resiliency. The ERS 8800 offers a high-performance architecture combining rich, advanced services for converged applications that enhance, protect and simplify network service and operations. Customers making strategic investments in their campus LAN infrastructure can rely on the ERS 8800 to create flexible solutions that match their business evolution. A provider of end-to-end solutions spanning voice, data, applications and network management, Avaya has the proven expertise to help businesses enhance revenue potential, streamline business operations, increase productivity and gain competitive advantage.

Learn More

To learn more about the Avaya Ethernet Routing Switch 8800, contact your Avaya Account Manager, Avaya Authorized Partner or visit us at: **www.avaya.com**.

Specifications

General and Performance

- Switch architecture: 720Gbps gross throughput
- Switch Fabric performance: up to 512Gbps in an Active/Active configuration
- Frame forwarding rate: up to 380Mpps
- Frame length: 64 to 1518 Bytes (802.1Q Untagged), 64 to 1522 bytes (802.1Q Tagged)
- Jumbo Frame support: up to 9,000 Bytes (802.1Q Tagged)
- Multi-Link Trunks: up to 128 Groups, with 8 Links per Group
- VLANs: up to 4,000 Port/Protocol/802.1Q-based
- Multiple Spanning Tree Groups: up to 32
- MAC Address: up to 64k
- IP Interfaces: 1,972
- Dynamic ARP Entries: up to 32k
- VRRP Interfaces: up to 255
- IP Forwarding Table: 250k
- ECMP Routes: up to 5k
- RIP Instances: up to 64
- RIP Interfaces: up to 200
- RIP Routes: up to 10k
- OSPF Instances: up to 64
- OSPF Adjacencies: up to 80
- OSPF Routes: up to 50k
- BGP Peers: up to 250
- BGP Routes: up to 250k
- SPB C-VLANs: up to 1,500
- SPB IS-IS Adjacencies: up to 50
- SPB IP Routes for L3 VSN: up to 25k
- SPB IP Routes for IP VPN-Lite/SPB: up to 250k
- VRF-Lite Instances: up to 255
- MPLS LDP LSPs: up to 16k
- MPLS Tunnels: up to 2,500
- PIM Active Interfaces: up to 200
- PIM Neighbors: 80/up to 200 for all VRFs
- IP Multicast Streams: up to 4k

System

- 8010 or 8010co 10-Slot, 8006 6-Slot, and 8003R 3-Slot Chassis options
- 8895SF Switch Fabric/CPU Module

Interface Modules

- 8812XL 12-port 10GbE SFP+ Ethernet Interface Module*
- 8834XG 34-port Combo 10/100/100 & 1GbE SFP & 10GbE XFP Ethernet Interface Module
- 8848GB 48-port 1GbE SFP Ethernet Interface Module
- 8848GT 48-port 10/100/1000 Ethernet Interface Module

Software

- ERS 8800 Base Software License
- ERS 8800 Advanced Software License, activating additional features: BGP4, IPv6 Routing, BFD, MSDP, & PCAP
- ERS 8800 Premier Software License, activating additional features: Advanced features plus Fabric Connect (including Multicast), IP VPN-Lite, MP-BGP, MPLS IP VPN, & VRF-Lite (including Multicast)

IEEE and IETF Standards Compatibility

- 802.1D-1998 Spanning Tree Protocol
- 802.1p Priority Queues
- 802.1Q Virtual LANs
- 802.1s Multiple Spanning Trees
- 802.1w Rapid Reconfiguration of Spanning Tree
- 802.1v VLAN Classification by Protocol & Port
- 802.1X Port Based Network Access Control
- 802.1ag OA&M compliant for Loopback and Link-trace
- 802.1aq Shortest Path Bridging/ D2.5
- 802.1AX/802.3ad Link Aggregation Control Protocol
- 802.3 CSMA/CD Ethernet (ISO/IEC 8802-3)
- 802.3 10BASE-T Ethernet
- 802.3i 10BASE-T – Auto-Negotiation
- 802.3u 100BASE-TX Fast Ethernet (ISO/IEC 8802-3, Clause 25)
- 802.3u 100BASE-FX
- 802.3u Auto-Negotiation on Twisted Pair (ISO/IEC 8802-3, Clause 28)
- 802.3x Flow Control on the Gigabit Uplink port
- 802.3z Gigabit Ethernet 1000BASE-SX & LX
- 802.3ab 1000BASE-T Ethernet
- 802.3ab 1000BASE-LX Ethernet
- 802.3ab 1000BASE-ZX Ethernet
- 802.3ab 1000BASE-CWDM Ethernet
- 802.3ab 1000BASE-SX Ethernet

*The 8812XL Module supports SFP+ Pluggable Transceivers that operate at 10Gbps only, not those that operate at 1Gbps. The 8812XL does support Direct Attach Cables for low-cost copper-based 10Gbps connectivity.

- 802.3ab 1000BASE-XD Ethernet
- 802.3ab 1000BASE-BX Ethernet
- 802.3ae 10GBASE-X XFP
- RFC 768 UDP Protocol
- RFC 783 TFTP Protocol
- RFC 791 IP Protocol
- RFC 792 ICMP Protocol
- RFC 793 TCP Protocol
- RFC 826 ARP Protocol
- RFC 854 Telnet Protocol
- RFC 894 A standard for the Transmission of IP Datagrams over Ethernet
- Networks
- RFC 896 Congestion control in IP/TCP internetworks
- RFC 903 Reverse ARP Protocol
- RFC 906 Bootstrap loading using TFTP
- RFC 950 Internet Standard Sub-Netting Procedure
- RFC 951 / RFC 2131 BootP / DHCP
- RFC 1027 Using ARP to implement transparent subnet gateways/ Nortel Subnet based VLAN
- RFC 1058 RIPv1 Protocol
- RFC 1112 IGMPv1
- RFC 1253 OSPF
- RFC 1256 ICMP Router Discovery
- RFC 1305 Network Time Protocol v3 Specification, Implementation and Analysis3
- RFC 1332 The PPP Internet Protocol Control Protocol
- RFC 1340 Assigned Numbers
- RFC 1541 Dynamic Host Configuration Protocol
- RFC 1542 Clarifications and Extensions for the Bootstrap Protocol
- RFC 1583 OSPFv2
- RFC 1587 The OSPF NSSA Option
- RFC 1591 DNS Client
- RFC 1695 Definitions of Managed Objects for ATM Management v8.0 using SMIv2
- RFC 1723 RIP v2 – Carrying Additional Information
- RFC 1745 BGP / OSPF Interaction
- RFC 1771 / RFC 1772 BGP-4
- RFC 1812 Router Requirements
- RFC 1866 HTMLv2 Protocol
- RFC 1965 BGP-4 Confederations
- RFC 1966 BGP-4 Route Reflectors
- RFC 1998 An Application of the BGP Community Attribute in Multi-home Routing
- RFC 1997 BGP-4 Community Attributes
- RFC 2068 Hypertext Transfer Protocol
- RFC 2131 Dynamic Host Control Protocol
- RFC 2138 RADIUS Authentication
- RFC 2139 RADIUS Accounting
- RFC 2178 OSPF MD5 cryptographic authentication/ OSPFv2
- RFC 2205 Resource Reservation Protocol – v1 Functional Specification
- RFC 2210 The Use of RSVP with IETF Integrated Services
- RFC 2211 Specification of the Controlled-Load Network Element Service
- RFC 2236 IGMPv2 for snooping
- RFC 2270 BGP-4 Dedicated AS for sites/single provide
- RFC 2283 Multiprotocol Extensions for BGP-4
- RFC 2328 OSPFv2
- RFC 2338 VRRP: Virtual Redundancy Router Protocol
- RFC 2362 PIM-SM
- RFC 2385 BGP-4 MD5 authentication
- RFC 2439 BGP-4 Route Flap Dampening
- RFC 2453 RIPv2 Protocol
- RFC 2475 An Architecture for Differentiated Service
- RFC 2547 BGP/MPLS VPNs
- RFC 2597 Assured Forwarding PHB Group
- RFC 2598 An Expedited Forwarding PHB
- RFC 2702 Requirements for Traffic Engineering Over MPLS
- RFC 2765 Stateless IP/ICMP Translation Algorithm
- RFC 2796 BGP Route Reflection – An Alternative to Full Mesh IBGP
- RFC 2819 Remote Monitoring
- RFC 2858 Multiprotocol Extensions for BGP-4
- RFC 2918 Route Refresh Capability for BGP-4
- RFC 2961 RSVP Refresh Overhead Reduction Extensions
- RFC 2992 Analysis of an Equal-Cost Multi-Path Algorithm
- RFC 3031 Multiprotocol Label Switching Architecture
- RFC 3032 MPLS Label Stack Encoding
- RFC 3036 LDP Specification
- RFC 3037 LDP Applicability
- RFC 3065 Autonomous System Confederations for BGP
- RFC 3210 Applicability Statement for Extensions to RSVP for
- RFC 3215 LDP State Machine
- RFC 3270 Multi-Protocol Label Switching Support of Differentiated Services
- RFC 3376 Internet Group Management Protocol, v3
- RFC 3392 Capabilities Advertisement with BGP-4 LSP-Tunnels
- RFC 3443 Time To Live Processing in Multi-Protocol Label Switching Networks
- RFC 3569 An overview of Source-Specific Multicast
- RFC 3917 Requirements for IP Flow Information Export
- RFC 4364 BGP/MPLS IP Virtual Private Networks
- RFC 4379 Detecting Multi-Protocol Label Switched Data Plane Failures
- draft-holbrook-idmr-igmpv3-ssm-02.txt IGMPv3 for SSM
- draft-ietf-bfd-v4v6-1hop-06 IETF draft Bi-Directional Forwarding Detection for IPv4 and IPv6 (Single Hop)
- RFC 1075 DVMRP Protocol

- RFC 1112 IGMP v1 for Routing/ Snooping
- RFC 1519 Classless Inter-Domain Routing: an Address Assignment and Aggregation Strategy
- RFC 2236 IGMP v2 for routing / snooping
- RFC 2362 + some PIM-SM v2 extensions
- RFC 3446 Anycast Rendezvous Point mechanism using Protocol Independent Multicast and Multicast Source Discovery Protocol
- RFC 3618 Multicast Source Discovery Protocol
- RFC 3768 Virtual Router Redundancy Protocol
- RFC 1881 IPv6 Address Allocation Management
- RFC 1886 DNS Extensions to support IP version 6
- RFC 1887 An Architecture for IPv6 Unicast Address Allocation
- RFC 1981 Path MTU Discovery for IP v6
- RFC 2030 Simple Network Time Protocol v4 for IPv4, IPv6 & OSI
- RFC 2373 IPv6 Addressing Architecture
- RFC 2375 IPv6 Multicast Address Assignments
- RFC 2460 Internet Protocol, v6 Specification
- RFC 2461 Neighbor Discovery
- RFC 2462 IPv6 Stateless Address Auto-Configuration
- RFC 2463/4443 Internet Control Message Protocol for the Internet Protocol v6 Specification
- RFC 2464 Transmission of IPv6 Packets over Ethernet Networks
- RFC 2474 Definition of the Differentiated Services Field in the IPv4 and IPv6 Headers
- RFC 2526 Reserved IPv6 Subnet Anycast Addresses
- RFC 2710 Multicast Listener Discovery for IPv6
- RFC 2740 OSPF for IPv6
- RFC 2893 Configured Tunnels and Dual Stack Routing per port
- RFC 2893 Transition Mechanisms for IPv6 Hosts and Routers
- RFC 3056 Connection of IPv6 Domains via IPv4 Clouds
- RFC 3363 Representing Internet Protocol Version 6 Addresses in DNS3
- RFC 3484 Default Address Selection for IPv6
- RFC 3513 Internet Protocol Version 6 Addressing Architecture
- RFC 3587 IPv6 Global Unicast Address Format
- RFC 3596 DNS Extensions to Support IP v6
- RFC 3587 IPv6 Global Unicast Address Format
- RFC 3590 Source Address Selection for the Multicast Listener Discovery Protocol
- RFC 3596 DNS Extensions to support IP version 6
- RFC 3810 IPv6 Multicast capabilities SSH/SCP, Telnet, Ping, CLI, JDM support for IPv6
- RFC 1305 NTP Client / Unicast mode only
- RFC 1340 Assigned Numbers
- RFC 1350 The TFTP Protocol (Revision 2)
- RFC 2474 / RFC 2475 DiffServ Support
- RFC 2597 / RFC 2598 DiffServ per Hop Behavior
- RFC 1155 SMI
- RFC 1157 SNMP
- RFC 1215 Convention for defining traps for use with the SNMP
- RFC 1269 Definitions of Managed Objects for the Border Gateway Protocol v3
- RFC 1271 Remote Network Monitoring Management Information Base
- RFC 1304 Definitions of Managed Objects for the SIP Interface Type
- RFC 1354 IP Forwarding Table MIB
- RFC 1389 RIP v2 MIB Extensions
- RFC 1565 Network Services Monitoring MIB
- RFC 1757 / RFC 2819 RMON
- RFC 1907 SNMPv2
- RFC 1908 Coexistence between v1 & v2 of the Internet-standard Network Management Framework
- RFC 1930 Guidelines for creation, selection, and registration of an Autonomous System
- RFC 2571 An Architecture for Describing SNMP Management Frameworks
- RFC 2572 Message Processing and Dispatching for the Simple Network Management Protocol
- RFC2573 SNMP Applications
- RFC 2574 user-based Security Model for v3 of the Simple Network Management Protocol
- RFC 2575 View-based Access Control Model for the Simple Network Management Protocol
- RFC 2576 Coexistence between v1, v2, & v3 of the Internet Standard Network Management Framework
- RFC 1212 Concise MIB definitions
- RFC 1213 TCP/IP Management Information Base
- RFC 1213 MIB II
- RFC 1354 IP Forwarding Table MIB
- RFC 1389 / RFC 1724 RIPv2 MIB extensions
- RFC 1398 Definitions of Managed Objects for the Ethernet-Like Interface Types
- RFC 1406 Definitions of Managed Objects for the DS1 and E1 Interface Types
- RFC 1414 Identification MIB
- RFC 1442 Structure of Management Information for version 2 of the Simple Network Management Protocol
- RFC 1447 Party MIB for v2 of the Simple Network Management Protocol bytes
- RFC 1450 Management Information Base for v2 of the Simple Network Management Protocol
- RFC 1472 The Definitions of Managed Objects for the Security Protocols of the Point-to-Point Protocol

- RFC 1483 Multiprotocol Encapsulation over ATM Adaptation Layer 5
- RFC 1493 Bridge MIB
- RFC 1525 Definitions of Managed Objects for Source Routing Bridges
- RFC 1565 Network Services Monitoring MIB
- RFC 1573 Interface MIB
- RFC 1643 Ethernet MIB
- RFC 1650 Definitions of Managed Objects for the Ethernet-like Interface Types using SMIv2
- RFC 1657 BGP-4 MIB using SMIv2
- RFC 1658 Definitions of Managed Objects for Character Stream Devices using SMIv2
- RFC 1695 Definitions of Managed Objects for ATM Management v8.0 using SMIv2
- RFC 1696 Modem Management Information Base using SMIv2
- RFC 1724 RIP v2 MIB Extension
- RFC 1850 OSPF MIB
- RFC 2021 RMON MIB using SMIv2
- RFC 2037 Entity MIB using SMIv2
- RFC 2096 IP Forwarding Table MIB
- RFC 2233 Interfaces Group MIB using SMIv2
- RFC 2452 IPv6 MIB: TCP MIB
- RFC 2454 IPv6 MIB: UDP MIB
- RFC 2465 IPv6 MIB: IPv6 General group and textual conventions
- RFC 2466 IPv6 MIB: ICMPv6 Group
- RFC 2578 Structure of Management Information v2
- RFC 2613 Remote Network Monitoring MIB Extensions for Switched Networks v1.0
- RFC 2665 Definitions of Managed Objects for the Ethernet-like Interface Types
- RFC 2668 Definitions of Managed Objects for IEEE 802.3 Medium Attachment Units
- RFC 2674 Bridges with Traffic MIB
- RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol
- RFC 2863 Interface Group MIB
- RFC 2925 Remote Ping, Traceroute & Lookup Operations MIB
- RFC 2932 IPv4 Multicast Routing MIB
- RFC 2933 IGMP MIB
- RFC 2934 PIM MIB
- RFC 3019 IPv6 MIB: MLD Protocol
- RFC 3411 An Architecture for Describing Simple Network Management Protocol (SNMP) Management Frameworks
- RFC 3412 Message Processing and Dispatching for the Simple Network Management Protocol
- RFC 3416 v2 of the Protocol Operations for the Simple Network Management Protocol
- RFC 3635 Definitions of Managed Objects for the Ethernet-like Interface Types
- RFC 3636 Definitions of Managed Objects for IEEE 802.3 Medium Attachment Units
- RFC 3810 Multicast Listener Discovery v2 for IPv6
- RFC 3811 Definitions of Textual Conventions for Multiprotocol Label Switching Management
- RFC 3812 Multiprotocol Label Switching Traffic Engineering Management Information Base
- RFC 3813 Multiprotocol Label Switching Label Switching Router Management Information Base
- RFC 3815 Definitions of Managed Objects for the Multiprotocol Label Switching, Label Distribution Protocol
- RFC 4022 Management Information Base for the Transmission Control Protocol 4087 IP Tunnel MIB
- RFC 4113 Management Information Base for the User Datagram Protocol
- RFC 4624 Multicast Source Discovery Protocol MIB
- RFC 4893 BGP Support for Four-octet AS Number Space
- RFC 6329 IS-IS Extensions supporting IEEE 802.1aq Shortest Path Bridging
- draft-unbehagen-spb-ip-ipvpn-00 – IP/IPVPN Services with IEEE 802.1aq SPB networks

Weights & Dimensions

- Ethernet Routing Switch 8010
  Chassis – 14RU
  Height: 22.9 in. (58.2 cm)
  Width: 17.5 in. (44.5 cm)
  Depth: 19.9 in. (50.5 cm)
  Weight: up to 225 lb (102 kg)
  Cooling System:
  - Fan Trays: 2 per Chassis
  - Fans: 15 per Fan Tray
  - Thermal Sensors: 1 per Fan Tray
- Ethernet Routing Switch 8010co
  Chassis – 20RU
  Height: 35.9 in. (88.9 cm)
  Width: 17.5 in. (44.5 cm)
  Depth: 23.7 in. (60.2 cm)
  Weight: up to 315 lb (143 kg)
  Cooling System: 8010co features front-to-back cooling and the maximum airflow specification for the 8010co Chassis is 330 linear ft/min

  The 8010co Chassis complies with Network Equipment Building Standard (NEBS) Level 3 as specified in SR3580. Typically the 8010co has superior physical and environment specifications; please reference to the product documentation for full details
- Ethernet Routing Switch 8006
  Chassis – 10RU
  Height: 15.8 in. (40.1 cm)
  Width: 17.5 in. (44.5 cm)
  Depth: 19.9 in. (50.5 cm)
  Weight: up to 170 lb (77 kg)
  Cooling System:
  - Fan Trays: 1 per Chassis
  - Fans: 20 per Fan Tray
  - Thermal Sensors: 1 per Fan Tray
- Ethernet Routing Switch 8003R
  Chassis – 7RU
  Height: 12.25 in. (31.1 cm)
  Width: 17.5 in. (44.5 cm)
  Depth: 21.0 in. (53.5 cm)
  Weight: up to 76 lb (34.5 kg)
  Cooling System:
  - Fan Trays: 1 per Chassis
  - Fans: 3 per Fan Tray

Environmental Specifications

- Operating temperature: 0°C to 40°C (32°F to 104°F)
- Storage temperature: -25°C to 70°C (-13°F to 158°F)

- Operating humidity: 85% maximum relative humidity, non-condensing
- Storage humidity: 95% maximum relative humidity, non-condensing
- Operating altitude: 3024 m (10,000 ft) maximum
- Storage altitude: 3024 m (10,000 ft) maximum
- Free fall/drop: ISO 4180-s, NSTA 1A
- Vibration: IEC 68-2-6/34
- Shock/bump: IEC 68-2-27-29

Safety Agency Approvals

- Global basis for certification: IEC 60950 current edition with all CB member deviations
- US: UL60950
- Canada: CSA 22.2 No. 60950
- Europe: EN60950 (CE Marking)
- Australia/New Zealand: AS/NZS 3260
- Mexico: NOM-019-SCFI-1998

Electromagnetic Emissions

- Global basis for certification: CISPR 22-1997 Class A
- US: FCC CFR47 Part 15, Subpart B, Class A
- Canada: ICES-003, Issue-2, Class A
- Europe: EN 55022-1998 Class A; EN 61000-3-2/A14

Electromagnetic Immunity

- Global basis for certification: CISPR 24:1997
- Europe: EN 55024:1998

Warranty

- 12 months on principle components

MTBF Values

- Chassis: 653,732 to 2,043,676 hours
- Power Supplies: 108,803 to 282,805 hours
- Switch Fabric/CPU Module: 213,454 hours
- Interface Modules: 350,814 to 388,833 hours

Country of Origin

- Malaysia (with the exception of Power Supplies which are manufactured in PR China)

Ordering Information (principle components)

Component	Part Code	Description
Chassis	DS1402001-E5	8010 10-Slot Chassis, complete with Fan Trays
	DS1402004-E5	8010co 10-Slot Central Office Chassis, complete with Fan Trays
	DS1402002-E5	8006 Series 6-Slot Chassis, complete with Fan Trays
	DS1402011-E5	8003R Series 3-Slot Chassis, complete with Fan Tray
System Modules	DS1404120-E5	8895SF Switch Fabric/CPU Module
Power Supplies	DS1405012-E5	8005AC 100-240V AC Power Supply, up to 1462W
	DS1405018-E5	8005AC 100-240V AC Dual Input Power Supply, up to 1462W
	DS1405011-E5	8005DC DC Power Supply, 1462W
	DS1405017-E5	8005DC DC Dual Input Power Supply, 1462W
Interface Modules	DS1404121-E6	8812XL 12-port 10GbE SFP+ Ethernet Interface Module
	DS1404123-E6	8834XG 34-port Combo 10/100/100 & 1GbE SFP & 10GbE XFP Ethernet Interface Module
	DS1404122-E6	8848GB 48-port 1GbE SFP Ethernet Interface Module
	DS1404124-E6	8848GT 48-port 10/100/1000 Ethernet Interface Module
Software	DS1410003-7.2	ERS 8800 Base Software License
	DS1410021	ERS 8800 Advanced Software License, activating additional features: BGP4, IPv6 Routing, BFD, MSDP, & PCAP
	DS1410026	ERS 8800 Premier Software License, activating Advanced features, plus Fabric Connect (including Multicast), IP VPN-Lite, MP-BGP, MPLS IP VPN, & VRF-Lite (including Multicast)

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
08/12 • DN4504-05

AVAYA

avaya.com

Avaya IP Flow Manager

Social media technology such as YouTube has changed the way people communicate, learn about the world and experience entertainment. Inevitably, these popular and pervasive technologies can affect the way individuals perform their day-to-day jobs. Not surprisingly, how and when employees use applications is an area of great concern to many companies.

Enterprises need to know if employees are using valuable network bandwidth for legitimate business purposes, entertainment or other personal activities, and how it affects the network, business processes and worker productivity. Applications, including collaboration and video conferencing, legitimately drive the need for more bandwidth and network expansion, but there are many other times when bandwidth is used inappropriately or inefficiently. So how do you get the real view of network usage — not only from a packet perspective, but also in terms of applications?

Avaya recognizes that effective and easy-to-use network management tools can help businesses improve efficiency, enhance productivity and make more informed decisions — while providing a smooth path to unified communications.

That's where the Avaya IP Flow Manager (IPFM) comes in.

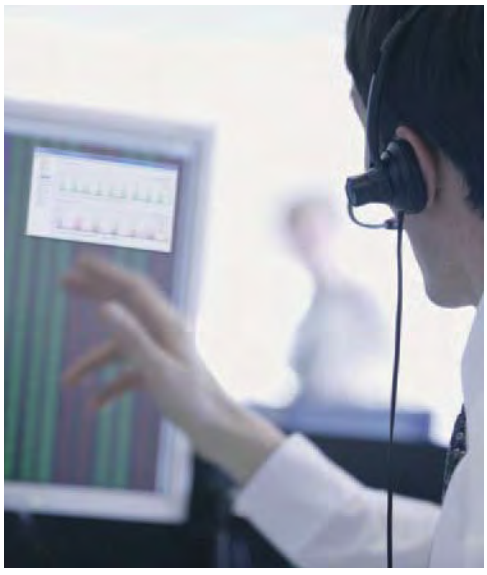
The IPFM is a network management software tool that enables you to monitor, view and diagnose problems at the application level, and then use this valuable data to make informed decisions about your network.

Full Network Monitoring

The IPFM was designed to work in conjunction with Avaya's Ethernet Routing Switch (ERS) portfolio, which includes the ERS 8600, ERS 8300, ERS 5600, ERS 5500 and ERS 4500. Data is collected via the ERS, on a per-port basis, and forwarded to the IPFM, which then performs monitoring, analysis and presentation of application issues and usage.

Convenient web browser access

With its user-friendly interface and built-in intelligence, the IPFM eliminates the need for manual collection of data and analysis of that data at a central site. Through the IPFM, administrators can access and analyze data quickly and easily through a web browser — anywhere, at any time. The IPFM supports Internet Explorer and Mozilla Firefox.



AVAYA'S UNIFIED COMMUNICATIONS MANAGEMENT

The IP Flow Manager is an integral part of the Avaya Unified Communications Management (UCM) solution. This solution leads the industry in offering comprehensive, integrated management capabilities across data and voice over both wired and wireless networks. Solution benefits include:

- Sharing of information across applications helping reduce data entry and the potential for errors
- Web-based, centralized authentication with single sign-on helping ensure easy and secure access to all management applications
- Easy-to-use templates and wizards easing the ramp up on new technologies
- Common look and feel across applications helping decrease the learning curve for IT personnel
- Application co-residency allowing applications to be hosted on the same servers

avaya.com

Valuable visibility into your network

The IPFM gives you better visibility and insight into how unified communications is implemented and used in the network, and by whom. For example, if users start to complain about poor voice quality, the IPFM enables you to look into other application usage that might be contributing to the degradation in voice quality. Through an easy-to-read 'dashboard' and convenient top 10 lists, the IPFM provides details of where excessive bandwidth usage is occurring and who is using it. For instance, if there is higher than usual HTTP traffic, the information allows your IT team to proactively take steps to resolve the issue.

Thresholding capabilities for network usage

The IPFM offers innovative thresholding and automatic notification features that enable you to keep an eye on your network without the need to constantly watch your monitor and review reports. Using pre-defined filters, your network administrator sets thresholds for specified applications such as file transfer protocol (FTP). If, at any time, FTP traffic exceeds a certain percentage, the appropriate personnel will receive an automatic notification as requested. For instance, notifications could be sent to the upper-end network management station (e.g., Avaya Visualization Performance and Fault Manager and HP OpenView) and via email to the administrator. The thresholding capability enables network personnel to resolve issues before they affect the network, rather than after the fact, helping minimize or eliminate the impact on productivity.

Packet capture for network analysis

The packet capture and analysis execution capability enables network managers to perform a much deeper analysis of network problems. This feature, which is supported on the Ethernet Routing Switch 8600 only, provides managers with visibility into all traffic passing through a port on the ERS 8600.

Accelerated decision making and effective planning

As soon as you've determined which applications are problematic, you can take steps to resolve the issues. Problem resolution could include re-provisioning the quality of service parameters in your network. With IP Flow Manager, you can give applications that are bandwidth-sensitive, such as FTP, lower priority than other applications such as video conferencing or Voice over IP (VoIP).

Greater visibility into applications can also help network planners make crucial decisions about network redesign and expansion. If the IPFM indicates that employees located in Dallas are frequently accessing files in another city thousands of miles away, it's a good indicator that the network needs some fine-tuning.

IP FLOW MANAGEMENT AT A GLANCE

IP Flow is the collection of IP packet data for the purpose of application performance, trending, accounting and behavior. Avaya has adopted the standard IPFIX (RFC3917) method to collect IP flow data. The Avaya IP Flow Manager supports the IPFIX, NetFlow v9 and NetFlow v5 methods of IP flow data collection.

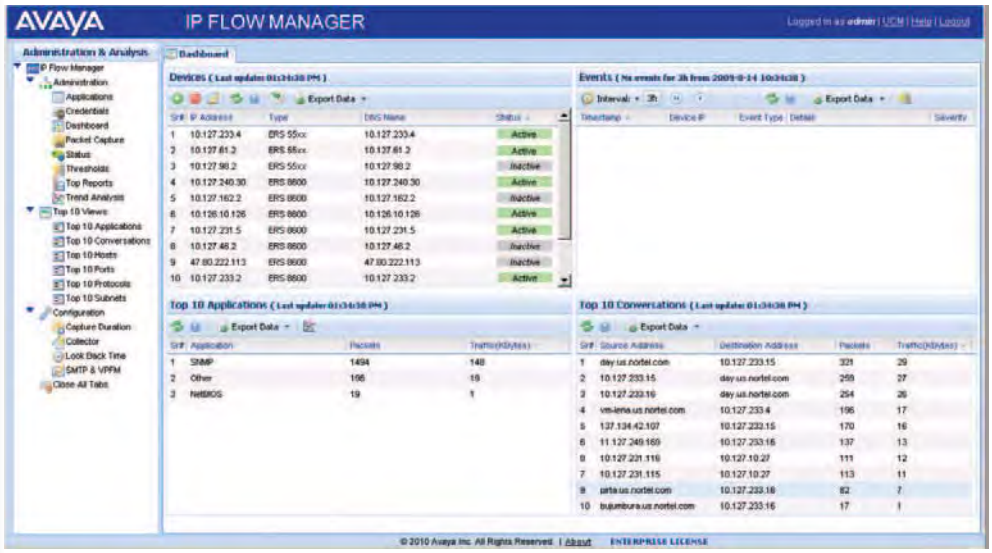


Figure 1. IPFM Dashboard

avaya.com

Through the IPFM, you also have insight into how individuals use certain applications and access different servers, which can help you to determine future planning requirements. For instance, if the IPFM indicates that there is extremely high phone activity in a certain location, your network administrator could respond by adding a call server to that location, which would lead to better and faster service.

Heterogeneous network support

The IPFM works in multi-vendor switching environments and will interoperate with devices supporting IPFIX and/or NetFlow v5 or v9.

Flexible licensing options

The IPFM is licensed on a device basis instead of an interface basis, and is available at three licensing levels.

- **Base License:** Includes software, manuals and support for one server and up to four IPFIX-enabled devices
- **Incremental License:** Paper license to add support to the Base License for one IPFIX-enabled device
- **Enterprise License:** Paper license to add support to the Base License for six IPFIX-enabled devices; and allows a maximum support of 50 IPFIX-enabled devices

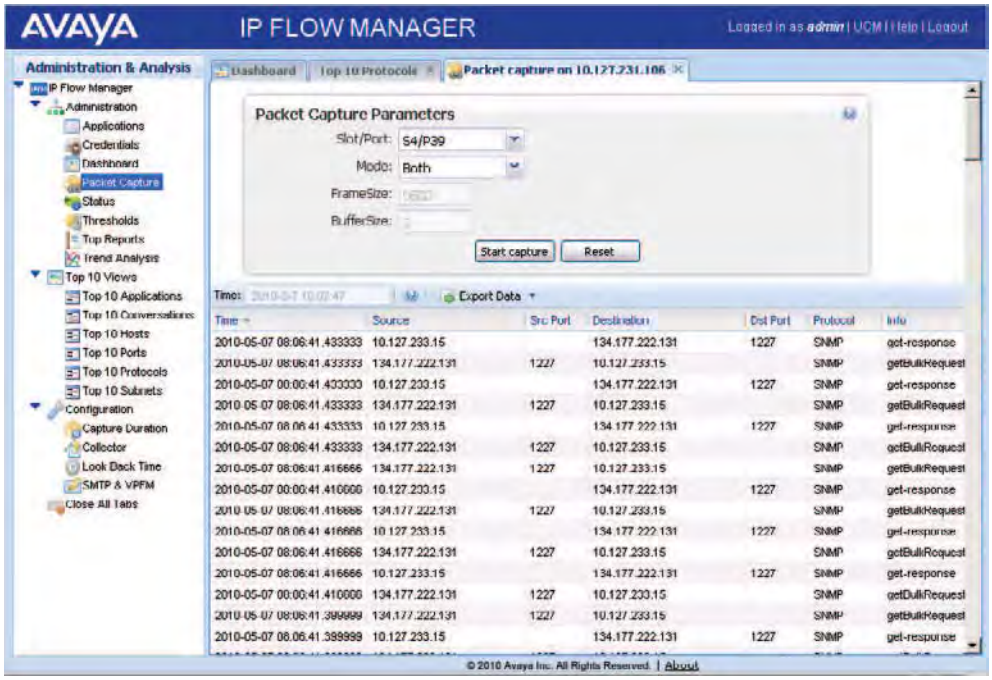


Figure 2. Ethernet Routing Switch 8600 packet capture and decode using the IPFM

AVAYA IPFM HIGHLIGHTS

- **Exceptional visibility** into application behavior and performance rather than just packet performance
- **Faster diagnosis** of application performance issues and problem solving
- **Accelerated decision-making** during network and application growth planning and implementation
- **Insight, analysis and trending** of application use and user behavior across the network

Summary

The Avaya IPFM is a powerful UCM network management software tool that displays your network in a different and valuable way. Through increased visibility to application traffic, you can diagnose and resolve network problems faster and make more informed decisions about how and when to grow your network.

Learn More

To learn more about Avaya Unified Communications Management solutions and Avaya IP Flow Manager, contact your Avaya Account Manager or Avaya Authorized Partner. Or, visit us online at **avaya.com**.

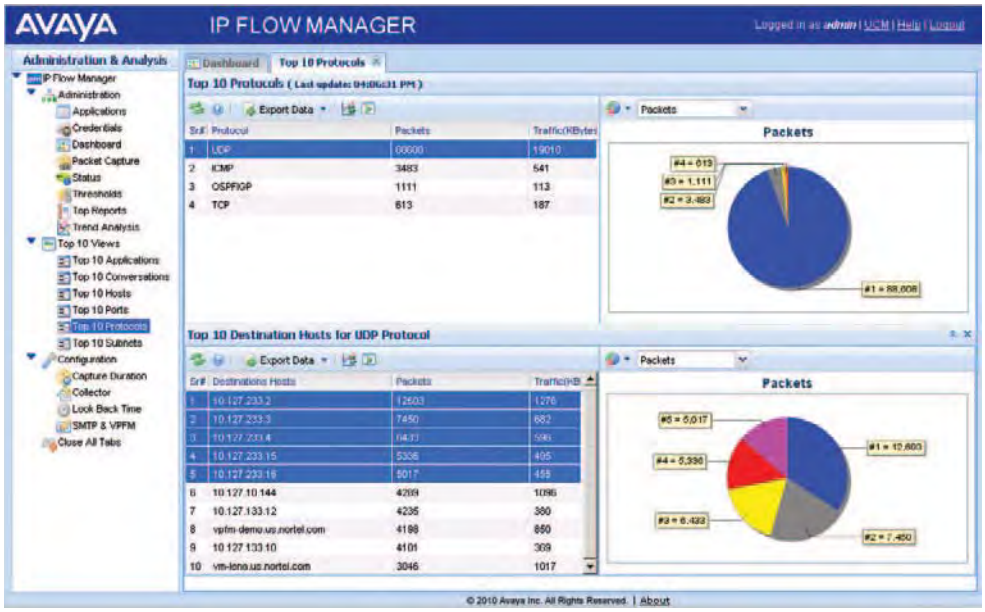


Figure 3. Detailed protocol analysis

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit www.avaya.com.

AVAYA
The Power of We™

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries.
All trademarks identified by ®, TM or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein.
References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
06/11 • DN5235-02

avaya.com

AVAYA

The Power of We™

Lifetime Warranty for Stackable Ethernet and Fabric Connect Edge Switches for Campus, Data Center and SME deployments

Reducing operational costs and delivering value for enterprise networks

Network managers are under increasing pressure to deliver on many fronts. Topping the list of business priorities is improving both 24x7 availability and cost management/ reduction. Successfully achieving these seemingly mutually exclusive objectives demands innovative thinking – an area where Avaya excels.

To increase your network's availability, Avaya offers a flexible combination of reliable hardware and software, leading network resiliency mechanisms such as Switch Clustering and our Stackable Chassis implementation. In addition, our products are backed by a comprehensive lifetime warranty and optional global support services - which are some of the most cost effective in the industry.

Lifetime Warranty Overview

Avaya includes leading warranty services on Ethernet edge products in the ERS 2500, ERS 3500, ERS 4000, ERS 5000, VSP 4000 and VSP 7000 product lines.

The warranty includes:

- Next-business-day delivery of an advanced replacement unit for failed hardware over the lifetime[1] of the product, including fans and power supplies
- Basic technical support during normal business hours over the lifetime of the product
- 90-day software warranty providing self-service downloads of service packs/maintenance loads[2]
- Extended support for the first 90 days after purchase

Lifetime Hardware Support

Complimentary next-business-day shipment of replacement hardware extends over the full life of the product.[1] All countries will receive next-business-day shipping to replace failed hardware. The Lifetime Warranty provides complete coverage for the base unit, including power supplies (internal, modular and hot swap plug-in) and fans within the unit. Advanced Replacement means that Avaya will ship a replacement product in advance of receiving the failed unit back. This provides significant value in that there is no required wait time for Avaya to receive the failed unit before shipping a replacement.

Lifetime Technical Support

Avaya offers complimentary basic technical support for the supported lifecycle of the product. This includes the software version shipped with or updated through optional support contracts over and above our normal warranty. We also offer extended support for the first 90 days after purchase.

In addition, Avaya offers service contracts providing enhanced software functionality and extended full technical support beyond the first 90 days after shipment. We encourage full coverage of your network to help reduce business risks and maximize return on your investment.

Optional Support Contracts

For business critical and more complex network implementations, Avaya recommends a support contract to reduce business risk.

The cost-effective Software Release Subscription (SRS) Basic service entitles customers and partners to access major, minor, patch and new release software updates over the term of the agreement. Although not mandatory, it is good practice to install all new releases to maintain devices at the current version.

24x7 Technical Support entitles you to enhanced technical support for the duration of the service contract. Also available are contracts for Managed Spares, with or without Onsite Support, that provide Next Business Day, Same Day or 4 Hour Delivery.

Summary

Flexibility is the key to meeting the varied and challenging requirements of doing business in a cost sensitive economic environment. Avaya offers a comprehensive lifetime warranty on its products with an option to supplement these capabilities with optional support contracts.

Avaya's unique product capabilities and innovative approach to support provide genuine cost-efficiencies for Stackable Ethernet Switches.

Our proven qualities include:

- Avaya's Stackable Switches are inherently robust and feature market-leading 'Stackable Chassis' resiliency capabilities that deliver unique always-on networking at the edge.
- Avaya's Top of Rack (ToR) switches (VSP 7000) offer unique distributed ToR functionality to optimize east-west traffic flows, simplify management and improve resiliency in the next generation data center.
- Avaya's Fabric Connect Edge switches (VSP 4000) are the industry's first fabric-enabled solution on a low-cost access platform. They extend the reach of a multiservice/multi-tenant fabric to campus, metro or WAN edge locations.
- Avaya's SME switches (ERS 3500) offer enterprise class functionality at prices targeted to cost conscious small-to-medium-size enterprises.
- Avaya's lifetime hardware warranty provides next-business-day shipping replacement for any failures during the life of the product including fans and power supplies.
- Avaya's lifetime basic software technical support – and enhanced support for the first 90 days – help ensure seamless support during the product introduction phase in addition to ongoing day-to-day operations.
- The optional SRS Basic service helps ensure cost-effective access to software patches and maintenance releases, as well as new major and minor feature releases for a renewable 12-month period.
- Optional technical support services (enhanced support over the life of the product) and managed spares options (NBD, SBD 4 hour) are available to supplement the lifetime warranty offer for more mission critical or complex network implementations.

Avaya's extensive, broad, in-depth experience with enterprise networking enables us to think outside the box and to create new products and services that meet the real-world needs of modern businesses.

The ever-challenging economic climate means that now, more than ever, Avaya is best positioned to drive exceptional efficiencies through value-for-money products that deliver best-in-class resiliency, performance and security capabilities, and that are supplemented by industry-leading warranty and cost-effective support options.

Learn More

To learn more about Lifetime Warranty Services for Ethernet Stackable Switches, contact your Avaya Account Manager or Avaya Authorized Partner. Or, visit us online at **support.avaya.com**.

---

[1] As per Industry norm for hardware, 'Lifetime' is defined as the production lifecycle phase, plus 5 years post-discontinuation. Software lifetime expires in line with published end-of-life dates.

[2] Software corrective fixes may be made available to customers at Avaya's sole discretion. Access to the software may require a software subscription.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
04/13 • DN5261-04

Transcript for Packet Pushers Podcast

Considerations for turning your network into a Fabric

Introduction:

This document is meant to be a transcript to accompany the podcast hosted by Packet Pushers, published in mid February. This podcast can be found at http://packetpushers.net/show-136-avaya-considerations-for-turning-your-network-into-an-ethernet-fabric-sponsored/

Speakers in this podcast include:
Paul Unbehagen – Chief Architect for Avaya Networking
Phil Taylor - Communications Consultant from Leeds Metropolitan University
Rick Bolt: - Network Engineer from Franciscan Alliance
Greg Ferro and Ethan Banks – Hosts of Packet Pushers

Notable quotes from the podcast:

"The original driver for an Avaya fabric was for L2 extension between data centers; however, as we became familiar with the IP capabilities of Fabric Connect we looked at how our routing could be enhanced. With our previous OSPF implementation we got reconvergence times down to a couple of seconds - but users noticed it. Now with the IS-IS capabilities of Avaya's fabric we have reduced inter-site failovers to under 20 milliseconds. We can now keep VoIP calls up, mailboxes don't fall over. Its seamless."

- Phil Taylor, Communications Consultant from Leeds Metropolitan University;

"We are currently looking at running multicast over our Avaya fabric without using PIM. It's very easy. You simply type in "multicast enable" on fabric connect edge nodes and it handles multicast without any changes to the core configuration. Before we were looking at lines and lines of code to get multicast running."

- Phil Taylor, Communications Consultant from Leeds Metropolitan University;

We designed a L3 network over our Avaya fabric for credit card transactions and keep it totally isolated from the other student, staff, traffic. This allows us to meet PCI DSS compliance for the banks very easily. Plus no need to make changes all the way through the core to segment the traffic."

- Phil Taylor, Communications Consultant from Leeds Metropolitan University;

“The ability to use the multicast over SPB features is a significant advantage as the multicast performance over TRILL is still just only being fixed now. This is quite a unique feature and heads above other options. ”

- Greg Ferro, Network Engineer/Architect at EtherealMind

“The resiliency of the Avaya fabric is its biggest value. Just yesterday I lost an OC-48 from one of my locations via the carrier. When I got the alert I did a L2 trace route to see what path the traffic was taking. It was already taking the redundant path. Not a single call dropped and no one even noticed the outage. The reconvergence of Avaya’s solution is lightening fast.”

- Rick Bolt, Network Engineer from Franciscan Alliance

“My advice to individuals who are evaluating fabric technologies is to see Avaya’s fabric in the lab. I am a skeptical person, but once you see it you’re going to want to implement it!”

- Rick Bolt, Network Engineer from Franciscan Alliance

Full Transcript (for internal use only!)

Packet Pushers Q: What are the drivers for the deployment of a network fabric?

Response: Paul U: Control plane for Ethernet – been around since 1972 – Spanning Tree protocol has been limited. Several years BYOD, DC growth and VM mobility, strain on operational models. Stressed the limits from a control plane.

Symbiotic relationship IP and Ethernet. Leaders of IEEE and IETF meet to talk about how to make changes in their protocols to address trends.

IEEE needs to provide a better control plane for Ethernet to support Ethernet’s growth. Ethernet is growing in DC, campuses, metros, your home, planes, trains are all – growing faster now than in the past

Fabric takes the complexity out Ethernet. Configuring Spanning Tree groups and VLANs, going hop by hop. Brings it down to as single command to extend any services anywhere in the infrastructure at any point. Makes the physical topology irrelevant and allows you to build any logical topology that you want; whether it be L2 or L3 or the 2 combined together of course.

Packet Pushers Q: What is the status of IEEE 802.1 aq as it’s been upstaged a bit by TRILL. Where from your viewpoint is SPB at?

Response Paul U: Its only marketing hype that IEEE 802.1aq has been upstaged by TRILL. The reality is the standard was deployed years before TRILL and its being deployed from data center to campus to metro because of simplification. SPB is the foundation for the IEEE moving forward.

Not only a replacement for STP, MRRP and all of those protocols. With a new protocol SPB we are now able to map IP services onto the fabric (unicast and multicast), replace OSPF and PIM

and MPLS-like VRFs. TRILL can't even touch this. They are still trying to reinvenet themselves.. copying the ISID from SPB. TRILL is also trying to figure out OAM. SPB can do pings, trace routes, latency and jitter tests with functionality that has been available in Ethernet for decades.

PP Comment: - When SPB was being developed, it was designed to scale not only for the data center to metro like deployments. TRILL was deliberately scaled down to a smaller data center and campus implementation. Focus that SPB brought to this with OAM is a reflection of focus.

Response Paul U– IEEE doesn't build protocols for niches. It is built for Ethernet. Ethernet is everywhere. When designing the standard we were told by IEEE – need to carry forward plug and play and virtualization capability and carry forward the last 50 years of Ethernet development. ISID is just a next-generation of VLANs.

PP Comment: SPB-B / SPB-M – SPB-B encompasses VLANs, QinQ everything that we are used to today. SPB-M adds multipathing. Natural evolution from IEEE standards built on VLANs. Networking in 3rd generation of virtualzation (VLAN first generation, MPLS, virtual router forwarding instances 2nd generation, now we are in the 3rd generation of services)

Paul: SPB is a simpler MPLS. Forward in a similar way to MPLS label switched paths. We call them Ethernet Switched Paths. Reason why SPB looks like MPLS. It was designed for people who want MPLS functionality without MPLS like complexity. Or for those who had MPLS like deployments and wanted to extend it into regions where cost or size couldn't carry the MPLS service. Environment is applicable to carriers and enterprises. DCs their environment – topology is similar to a metro. Aggregation, access, fat tree design. Partial meshing. Only so many ways to build IP and Ethernet together.

PP Question: What is SPB? How does SPB bring its value.

TRILL designed for small. SPB from small to large. SPB wasn't just designed to replace spanning tree. TRILL still has route bridges – every packet goes to every edge. SPB – only send packets to the links on the shortest latent path. Extend VLANs across any end points from 20 to 200 + nodes with single command. Simplify other aspects of DC, campus and metro. Replaces functionality of MPLS. Logical L2s underneath multiple logical L3s with VRF's to handle multicast, unicast routing and bridging all at the same time using one simple protocol.

PP Question: What is the encapsulation?

Paul U: SPB-V IP-Ethernet-VLANs
SPB-M IP-Ethernet-Additional MAC header.

Why the new header? To make the network look like a single hop. For path control and to hide customer MAC addresses from the core nodes in the network. Encapsulation is just on the edge devices not the core devices.

Modern boxes purchased in the last 5 years can be upgraded via software to support this functionality. Boxes purchased in 1992 can be put in the middle of the network and it will work just fine. To the devices in the middle of the network, it looks like straight Ethernet switching. We just optimized the switched paths in the switch hardware.

We did 4 interop events– several vendors showed up. The code just worked. Control plane interoperability was done in 5 mins. Ethernet and IP it just works.

PP Question: Let's shift gears and talk to customer's. What did your network look before SPB and what were the drivers to look at a fabric?

Phil Taylor – Star topology network built around our data center. Dual LAG links providing stable connections back to the core. Network was stable and resilient. Requirements changed when we added our second data center to the university. Did a network redesigned worked from back up data center, implemented a large OSPF deployment and again got to a point where we had a stable resilient network. We were in a good position.. but what we realized was that we weren't very flexible. We had a lot of VMs, a lot of requirements for loadbalancing, needed 2 DCs to look like one.

We didn't want to compromise our design but we wanted to look more flexible to our server guys to provide our services to our customers. We knew we'd be looking at a loop prevention mechanism (ie. Spanning Tree) because we had a fully meshed topology. We looked at SPB and it provided all the solutions we were looking for.

Traditionally flat network. All services in same L2 segment. Then needed to extend that segment to their other data center. Because the physical topology was stable – we didn't want to compromise it. The main driver was to extend the L2 segments. It was at that point we decided to build a fabric. Needed to meet the requirement of deploying services across 2 Data Centers.

PP Question: Rick want was your application? Your deployment is metro?

Previously OC-12 RPR implementation. Geographically dispersed with 15 locations between multiple cities. Running OSPF for our WAN. We were stealing bandwidth from our backup portion due to low bandwidth issues. So we really didn't have a backup solution at all. We couldn't touch anything on our WAN without a high risk taking down one of the sites for a short time due to OSPF reconvergence times. So it summary our previous solution was very slow and very inefficient.

Also we were looking for a solution where we could have multiple links without relying on the carrier. Looked at SPB. Ended up with OC-48s coming out of each site. Couple sites 10 Gig for the WAN. With the multiple links, SPB was the perfect solution. We also replaced OSPF with IS-IS routing via SPB. Solution still looks like a ring but doesn't behave like one. We are able to use all of our links at the same time and the failover is lightening fast.

Rick, how did you transition the network?

That was a job! Appeared daunting to management. I needed to see it to believe. We needed to upgrade all of our WAN facing switches both from a hardware and a software perspective – since we were redundant customers didn't see any of that. Then we set up the IS-IS network, still running OSPF. Then we had a cut for each site. IS-IS routes were built so we'd shut down OSPF. Everything was seamless from a deployment.

Phil – what values does having an Avaya fabric bring you?

"Driver was Layer 2 extension between DC. Immediately able to deploy Layer 2 virtual services without changing any networking information and physically resilient load balancing services between data centers several miles apart. As we were deploying SPB and we became familiar with the IP Shortcuts capability we looked at how our routing could be enhanced with IS-IS with lightening fast convergence reducing inter-site failovers to the network to 20 milliseconds; we could keep VoIP, mailboxes didn't fall over. If we lost links no one noticed. In comparison with OSPF we worked on it and we got it down to a couple of seconds but users noticed it. Now it's not at all. Its seamless. We can offer better business continuity and DR solutions. Design a L3 network for credit card transactions and keep it totally isolated from the other student, staff, traffic meet PCI DSS compliance for the banks very easily. Based on SPB No need to make changes all the way through the core to segment the traffic."

"Embracing the deployment of multicast. Running multicast without PIM. "multicast enable" on SPB and it handles multicast without any changes to the core configuration… whereas before we were looking at lines and lines of code to get multicast running."

Packet Pushers Comment "The ability to use the multicast over SPB features is a significant advantage as the multicast performance over TRILL is still just only being fixed now. This is quite a unique feature and heads above other options. "

Phil – Main benefit is that we have much less restrictions on when and how to deliver services. Can meet requirements.

Rick – Resiliency is biggest value. Lost an OC-48 via the carrier – when I got the alert I did a L2 traceroute to see what path the traffic was taking. It was already taking the other path not a single call dropped and no one even noticed the outage.

PP Question: What is your advice to customers looking at evolving to a fabric?

Rick: If you are as far back hardware and software wise as we were make the commitment to upgrade – it's worth it. Implementation of SPB was really really easy. In comparison to example putting in your WAN for the first time. I am a skeptical person and we would get into the lab and pull links and see what would happen. "**Once you see SPB in the lab – you are going to want to implement it!"**

PP Comment: Super fast convergence times are pretty interesting to me. I have not had the opportunity to work in an environment

PP Question: Why Avaya for Fabrics?
Long legacy in selling Ethernet switches – Bay / Nortel. People also think that we have a carrier perspective but we don't - almost all deployments of SPB have been in the enterprise. Simplicity in every environment. Simplify the entire network (not just replace STP)– doesn't stop at the data center. SPB gives you virtualization, things that you can do in ways you couldn't ever image. Applications in DC from weeks to minutes because of the simplicity in deploying services.

We see application and the infrastructure – we live it every day. We can solve real IT problems.

PP Question: What products do you deploy SPB on?

Deployed on many products, Modular core switches and Top of Rack switches. Ability to interconnect Top of Racks. Guarantee shortest latent path. Buffers kill latency. Move VMs in milliseconds. Multi-tenancy and multiservice a key requirement. Protect users from each other, safety, security, regulatory requirements.

Today VSP, ERS lines – bringing it to the edge this year.

PP Summary:
Another approach to consider for your fabric. You should think about Avaya for Ethernet switching. Pedegree of the company goes back a long way – long history of product – first company to come out with Split Multilink Trunking (MLAG) – they've had it from the mid 2000's. Been around for a long time.

AVAYA

avaya.com

Avaya Secure Router 2330

A converged voice/data branch solution

Avaya Secure Router 2330

The Avaya Secure Router 2330 is a powerful modular system that converges routing, voice gateway, security and multimedia traffic forwarding in a single cost-effective platform for enterprises. Delivering fast, secure, reliable and scalable wide area network (WAN) access, the Secure Router 2330 is perfect for enterprise sites requiring high-speed IP or Internet access.

Features

Multi-service platform

- Full IPV4/IPV6 routing, IPSec, VLAN and stateful firewall
- Voice media gateway services, including support for digital and analog trunks, analog phones, fax machines and modems
- Range of WAN connectivity, including T1/E1, ISDN BRI, Serial, Ethernet and ADSL2+

Voice Gateway services

- SIP survivable voice services for up to 100 users compatible with Avaya Aura®, Communication Server 1000 and 2100, as well as third party SIP call servers.
- Range of integrated voice interfaces, including T1/E1 PRI, BRI, FXS/DID and FXO/CAMA – enable connection to the PSTN or analog telephony devices

Robust routing

- Low-latency, high-packet throughput ideal for VoIP and multimedia transport
- IPv4 or IPv6 with BGP-4 and Multicast services (PIM-SM, DVMRP)

Integrated security

- Stateful packet inspection firewall
- VPN hardware acceleration and IPSec VPN services for secure voice and data transport

The Secure Router 2330 combines high performance, robust routing, flexible WAN and voice media gateway connectivity and is targeted at enterprise branch and remote site environments. A rich suite of routing services and advanced WAN functionality makes the Secure Router 2330 ideal for high-speed Internet access, private line WAN connectivity, IP Telephony and multimedia, IPSec VPN, stateful firewall and data applications. Comprehensive, simple-to-use software tools enable sophisticated access and bandwidth management for dependable communications.

Robust routing

Routing services include a full IPv4 and IPv6 protocol set, including BGP-4 and multicast capabilities. A full-function IPv6 implementation also enables deployment into environments that require extended IP addressing with the same routing services — all without any additional system memory requirements.

Voice Media Gateway Services

The Secure Router 2330's voice gateway allows connection to the public switched telephone network (PSTN) as well as support for SIP clients and conventional TDM-based telephony devices. T1/E1, FXS and FXO interfaces are all available for flexible telephony connection with support for up to 100 SIP users or devices. The Secure Router 2330 voice gateway and survivability services are interoperable with Avaya Aura® Session Manager, Communication Server 1000 (R6.0 and higher) and Software Communication Server (SCS). The Secure Router 2330 gateway services are also compatible with Microsoft OCS R2, as well as other 3rd-party SIP call servers for flexible branch gateway deployment.

avaya.com

Survivable SIP gateway

The Secure Router 2330 also supports a survivable SIP gateway that provides business continuity (or survivability) for registered SIP devices. If communications is lost to a central UC or VoIP server, SIP users can continue to make/receive calls to the locally-connected PSTN (see Figure 1), and access common phone features such as hold, transfer, conferencing and call waiting. When communications to the central server is restored, the Secure Router 2330 automatically re-connects SIP users for resumed access to centralized UC and VoIP services.

Integrated security

Powerful, fully-integrated security features include VPN and firewalls for increased reliability and user confidence. Capabilities include stateful packet firewall, detection and prevention of more than 60 Distributed Denial of Service (DDoS) attacks, VPN hardware acceleration for hub and spoke deployment over IPSec and VPN tunnels, and IPSec VPN data-encryption services with AES, 3DES, DES, SHA-1, MD-5 and Diffie-Hellman support.

Advanced quality of service

Quality of service goes beyond Layer 3 flow-based support by including Layer 2 class-based queuing. The highest granularity of priorities (eight levels) provides maximum performance with the lowest latency for voice, video and other high priority traffic while guaranteeing bandwidth among all classes.

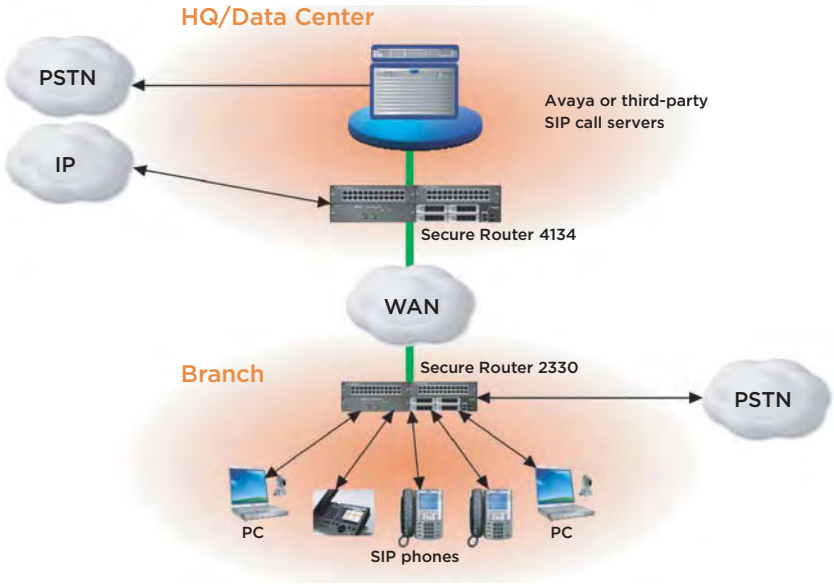


Figure 1. Secure Router 2330 supports both data and IP telephony devices in the branch with survivable SIP voice services even when the WAN link goes down.

Multi-link capabilities

Secure Router 2330 provides best-in-class MLPPP and MFR (FRF.16 and FRF.15) support to allow bonding of T1/E1, T3 and other WAN interfaces to create a single virtual interface capable of transmitting at the maximum bandwidth available. Multi-linking enables hassle-free bandwidth scalability, high-speed video, voice and data transfer while securing connectivity from individual link failures.

Simple to install, simple to scale modular platform

The Secure Router 2330 provides advanced operational features while simplifying, or eliminating, time-consuming and confusing installation tasks. The router's chassis has 8 built-in Ethernet and three module slots that can support either data or voice modules to support the dynamic demands of growing businesses. This means that in addition to its 8 Ethernet ports, the SR 2330 can support up to:

- 6 T1/E1, serial or ISDN BRI ports, or
- 12 FXS/FXO ports

Management

The Secure Router 2330 employs an industry-aligned command line interface (CLI) that makes it easy to set up and manage. Features include:

- On-Premise, Console and Command Line Interface; Telnet, Events, Syslog
- Remote SSHv2 provides secure communication for configuration and maintenance

avaya.com

- Avaya Unified Communication Management (UCM) provides Secure Router fault management and device reporting

The Secure Router family

The Secure Router 2330, with its modular design, high throughput and reliable performance, is complemented by Avaya's Secure Router 1000, 3120 and 4134 Series. Deployed in combination with other Secure Router models, the Secure Router 2330 not only handles the WAN and LAN requirements of the integrated branch, but can also act as a voice media gateway device for connection to the PSTN.

An easy choice

Secure Router 2330 is a, cost-effective branch convergence solution that brings together feature-rich voice and data services into a common platform for simplified management, greater cost savings and a high quality of user experience.

Technical Specifications

Features

Internet Routing

- IPv4 and IPv6 support, including IPv4-IPv6 tunnels
- Static routing, RIPv1/2, RIPng for IPv6, OSPFv2 and v3, BGP4/4+
- Policy-based routing
- Inter-VLAN routing
- High availability: VRRP, redundant router connections
- GRE and IP-IP Tunneling

Ethernet LAN

- 10/100 Base-TX
- 10/100/1000 Base-TX
- 1000 Mbps Optical SFP
- IEEE 802.1x port authentication
- IEEE 802.1p
- IEEE 802.1Q
- IEEE 802.3ad LACP
- IEEE 802.1s MSTP
- IEEE 802.3x VLAN
- GVRP
- Port mirroring
- Jumbo frames
- Ethernet Connectivity Fault Management (CFM)

WAN

- T1/E1, including ISDN PRI
- ISDN BRI, both data and voice
- ADSL2+ (Annex A and B)
- Serial (V.35, RS-232/V.28, RS-449/V.11, EIA-530/A and X.21/RS-422)
- Point-to-Point Protocol (PPP), including PPP over Ethernet (PPPoE)
- Frame Relay (including FRF.12 fragmentation)
- HDLC
- Bridge Control Protocol (BCP)
- Multilink PPP (MLPPP)
- Multilink Frame Relay (MFR), including FRF.15 and FRF.16

IP Multicast

- IGMPv1/2/3 for IPv4; MLDv1/2 for IPv6
- IGMP Proxy
- IGMP Snooping
- PIM-SM for IPv4/v6
- DVMRPv3 for IPv4

MPLS Label Edge Routing (LER) services

- Label Distribution Protocol (LDP)
- RSVP-TE, OSPF-TE
- MPLS Fast Reroute
- MPLS Martini Pseudo-wire (Ethernet, PPP, HDLC over MPLS)

Quality of Service/Traffic Management

- RED, WRED, DiffServ, bandwidth guarantee/sharing, flow monitoring
- Traffic Policing
- 8 level Priority Class Based Queuing
  - — Per IP address/subnets, Ports, DSCP and ToS bits, VLAN ID (802.1q), VLAN Priority (802.1p)
- Frame Relay traffic shaping and policing
- VLAN Classification (port, subnet or protocol-based)

Firewall

- Stateful Packet Inspection Firewall
- 25-zone support (including Corporate, Internet, DMZ)
- NAT, including policy-based NAT/PAT
- 60+ Distributed Denial of Service (DDoS) Attack Preventions
- 30+ ALG support (including H.323/SIP)
- Pass through, IPSec, L2TP, PPTP

VPN Option

- IPSec VPN, NAT-Traversal
- DES / 3DES, AES, SHA1, MD5
- Site-to-site and remote access support
- VPN acceleration hardware
- 100 VPN tunnels

Maximum Performance

- IP routing throughput (64 byte): 163,000 pps
- IPSec (3DES) throughput: 250 Mbps

Voice Signaling Support

- T1/E1 ISDN PRI (User side)
- ISDN BRI (User side)
- T1 CAS
- E1 R2 CAS
- Q Signaling (QSIG)
- FXS (Foreign Exchange Station)
- FXO (Foreign Exchange Office)
- Direct Inward Dialing (DID)
- Centralized Automated Message Accounting (CAMA)
- E-911 emergency calling

SIP Survivability Calling Features

- Inbound/outbound PSTN calling
- Intra-branch calling
- Call hold, consultation hold
- Call transfer (attended, unattended)
- 3-way conferencing
- Click to dial
- SIP user registration security

Codecs Supported

- G.711 - A-law and u-law
- G.726 - 16, 24, 32 Kbps
- G723.1 - 5.3, 6.3 Kbps
- G.729A - 8 Kbps

Other Voice Gateway Features

- TDM to IP, IP to TDM conversion
- ITU G.168 Echo Canceller
- Voice Activity Detection/Comfort Noise Generation
- DTMF digit detection
- Caller ID generation and detection
- T.38 fax relay/Fax and Modem Pass-through
- Up to 64 DSP channels

"VoIP-Friendly" Features

- Low-latency packet forwarding
- SIP ALG for NAT and Firewall
- Cone NAT (for Avaya Unistim protocol) with NAT hairpinning
- Frame Relay fragmentation (FRF.12)
- Compressed RTP (cRTP)

Service Provisioning

- Management Telnet, SSHv2, SFTP, PAP, CHAP, SNMPv2, DHCP, DNS Proxy, SNTP, RADIUS, TACACS+
- Monitoring: Syslog, statistics, RMON, alarm
- Diagnostics: BERT, loopback testing, trace route, packet capture (PCAP)

Physical Specifications

Chassis

- Height x Width x Depth: 4.4cm x 44.4cm x 29.6cm (1.75in x 17.5in x 11.6in)
- Weight with Power Supply: 3.4 kg (7.5 lbs)
- Chassis Slots:
  — 3 small module slots
  — All slots are hot swappable
- 4 x 10/100 Fast Ethernet Copper
- 2 x 10/100/1000 Ethernet copper
- 2 x GigE SFP Fiber ports
- Management ports:
  — Compact Flash
  — Console port (RJ-45)

Power options

- AC Power Supply – 50-60 Hz, 90-269 VAC, 60 Watts
- 12 VDC Input for optional external redundant power

Environmental

- Operating Temperature: 32° to 104°F (0° to 40°C)
- Non-Operating (Storage) Temperature: -4° to 140°F (-20° to 60°C)
- Relative Humidity: 0 to 95% (non-condensing)

Regulatory Approvals

- Safety: CTUVus and GS Certification: UL60950-1, EN60950-1 and IEC60950-1 (International CB Report)
- EMC: Class A Product, FCC Part 15, ICES-003, EN300386, EN550022, EN55024, VCCI
- Telecom : TIA-968-A, CS-03, ETSI TBR 3/4, 12/13

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit www.avaya.com.

AVAYA
The Power of We™

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries.
All trademarks identified by ®, TM or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein.
References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
08/11 • DN5105-05

avaya.com

AVAYA
The Power of We™

Avaya Secure Router 4134

A unified communications integrated branch solution

Avaya Secure Router 4134

Consolidate branch networking functions with a powerful modular system that converges routing, security and unified communications services in a single, competitively-priced platform.

The Avaya Secure Router 4134 is a modular, multi-service platform that integrates multiple networking functions, including routing, WAN, Ethernet switching, voice media gateway and security into a single device. This multi-service integration can reduce the number of devices needed at the branch or regional site, generating substantial operational and capital cost savings for your business.

The Secure Router 4134 offers the performance and connectivity that enable it to not only handle the demands of the integrated branch, but also act as the regional or headquarters router for many enterprises. In doing so, it can cost-effectively and securely concentrate traffic from hundreds of remote sites.

Reliable performance for converged branch applications

The Secure Router 4134 is a dependable solution that can be deployed in a variety of configurations to maximize uptime with no single points of failure. Data, voice, video and other multimedia applications perform more smoothly without the latency, packet loss and jitter encountered with other solutions, resulting in the ability to provide the same enterprise-class service and quality of experience to remote sites and branch offices as is available at corporate headquarters.

Robust routing

Routing services include a full IPv4 and IPv6 protocol set, including BGP-4 and multicast capabilities. A full-function IPv6 implementation also enables deployment into environments that require extended IP addressing with the same routing services — all without any additional system memory requirements.

Voice media gateway services

The Secure Router 4134's voice gateway allows connection to the public switched telephone network (PSTN) as well as support for SIP clients and conventional TDM-based telephony devices. T1/E1, FXS and FXO interfaces are all available for flexible telephony connection. With its integrated media gateway services, the Secure Router 4134 can connect local IP phones, SIP clients as well as analog telephony devices directly to the PSTN, eliminating the need to route voice traffic back to a central site, saving on transmission costs. The Secure Router 4134 voice gateway and survivability services are interoperable with Avaya Aura® Session Manager, Communication Server 1000 (R6.0 and higher) and Communication Server 2100.

Survivable SIP gateway

The Secure Router 4134 also supports survivable SIP gateway services that provides business continuity for registered SIP devices. If communications is lost to a central UC or VoIP server, SIP users can continue to make/receive calls to the locally-connected PSTN and access common phone features such as hold, transfer and call waiting. When communications to the central server is restored, the Secure Router 4134 automatically re-connects SIP users for resumed access to centralized UC and VoIP services.

Features

Multi-service platform

- Full IPV4/IPV6 routing, IPSec, VLAN and firewall
- Voice media gateway services, including support for digital and analog trunks, analog phones, fax machines and modems
- Wide range of WAN connectivity, including DS3, HSSI, Channelized DS3, T1/E1, ISDN, Serial and ADSL2+
- High-density Ethernet switching with built-in Power over Ethernet (PoE)

Voice Media Gateway

- Range of integrated voice interfaces — including T1/E1 PRI, BRI, FXS/DID and FXO/CAMA — enable connection to the PSTN or analog telephony devices
- SIP survivable gateway ensures business continuity for SIP devices
- Up to 128 simultaneous voice (DSP) channels can handle voice gateway needs of small to large branch sites

Integrated Ethernet switching

Integrated high-density Ethernet switching, including Gigabit, Fast Ethernet and Power over Ethernet (PoE) connectivity, enables flexible connection of local area network (LAN) devices, such as powered services for IP telephony devices. A variety of Ethernet switching modules enables up to 30 Gigabit, 72 Fast Ethernet or 72 PoE ports. The Ethernet switch ports can operate at either Level 2 or Level 3, enabling dynamic connectivity of devices and subnets across your network.

Integrated security

Powerful, fully-integrated security features include VPN and firewalls for increased reliability and user confidence. Capabilities include stateful packet firewall, detection and prevention of more than 60 Distributed Denial of Service (DDoS) attacks, VPN hardware acceleration for hub and spoke deployment over IPSec and VPN tunnels, and IPSec VPN data-encryption services with AES, 3DES, DES, SHA-1, MD-5 and Diffie-Hellman support.

Advanced quality of service

Quality of service goes beyond Layer 3 flow-based support by including Layer 2 class-based queuing. The highest granularity of priorities (eight levels) provides maximum performance with the lowest latency for voice, video and other high-priority traffic while guaranteeing bandwidth among all classes.

Multi-link capabilities

Secure Router 4134 provides best-in-class MLPPP and MFR (FRF.16 and FRF.15) support to allow bonding of T1/E1, T3 and other WAN interfaces to create a single virtual interface capable of transmitting at the maximum bandwidth available. Multi-linking enables hassle-free bandwidth scalability, high-speed video, voice and data transfer while securing connectivity from individual link failures.

Simple to install, simple to scale modular platform

The Secure Router 4134 provides advanced operational features while simplifying, or eliminating, time-consuming and confusing installation tasks. The router's unique chassis has four small module slots and three medium ones to support the dynamic demands of growing businesses. Four small slots support low-density data or voice modules. Medium slots can be used for WAN, Ethernet or voice carrier modules. A voice carrier module also hosts up to four small voice modules (FXS or FXO) in a single medium module slot and can thereby increase total voice port capacity. The modular and flexible Secure Router 4134 can support:

- Up to 72 Power over Ethernet 10/100 Mbps ports
- Up to 34 Gigabit Ethernet switching ports
- Up to 64 FXS or FXO ports
- Up to 3 Clear or Channelized DS3/T3 ports
- Up to 31 T1/E1 ports
- Up to 7 Serial or ISDN BRI/PRI ports
- Up to 3 HSSI ports
- Up to 4 ADSL2+ ports

Management

The Secure Router 4134 employs an industry-aligned command line interface (CLI) that makes it easy to set up and manage. Features include:

- On-Premise, Console and Command Line Interface; Telnet, Events, Syslog
- Remote SSHv2 provides secure communication for configuration and maintenance
- Avaya Unified Management provides Secure Router fault management and device reporting

The Secure Router family

The Secure Router 4134, with its modular design, high throughput and reliable performance, is complemented by Avaya's Secure Router 1000, 2330 and 3120 family of products. Deployed in combination with these other Secure Router models, the Secure Router 4134 can connect remote sites and also act as a central-site router for most enterprises.

An easy choice

Secure Router 4134 is a high-performance branch convergence solution that brings together feature-rich VoIP and feature-rich data into a common platform for simplified management, greater cost savings and a high quality of user experience.

Secure Router 4134 Technical Specifications

Features

Internet Routing
- IPv4 and IPv6 support, including IPv4-IPv6 tunnels
- Static routing, RIPv1/2, RIPng for IPv6, OSPFv2 and v3, BGP4/4+
- Policy-based routing
- Inter-VLAN routing
- High availability: VRRP, redundant router connections
- GRE and IP-IP Tunneling

Ethernet LAN
- 10/100 Base-TX
- 10/100/1000 Base-TX
- 1000 Mbps Optical SFP
- IEEE 802.1x port authentication
- IEEE 802.1p
- IEEE 802.1Q
- IEEE 802.3ad LACP
- IEEE 802.1s MSTP
- IEEE 802.3x VLAN
- GVRP
- Port mirroring
- Jumbo frames
- Ethernet Connectivity Fault Management (CFM)

WAN
- T1/E1, including ISDN PRI
- ISDN BRI, both data and voice
- ADSL2+ (Annex A)
- High-Speed Serial Interface (HSSI)
- DS3/T3 – Channelized with 28 DS1/T1 (1.544 Mbps) multiplexed circuits
- DS3/T3 – Clear-Channel with sub-rate DS3 support
- Serial (V.35, RS-232/V.28, RS-449/V.11, EIA-530/A and X.21/RS-422)
- Point-to-Point Protocol (PPP), including PPP over Ethernet (PPPoE)
- Frame Relay (including FRF.12 fragmentation)
- HDLC
- Bridge Control Protocol (BCP)
- Multilink PPP (MLPPP)
- Multilink Frame Relay (MFR), including FRF.15 and FRF.16

IP Multicast
- IGMPv1/2/3 for IPv4; MLDv1/2 for IPv6
- IGMP Proxy
- IGMP Snooping
- PIM-SM for IPv4/v6
- DVMRPv3 for IPv4

MPLS Label Edge Routing (LER) services
- Label Distribution Protocol (LDP)
- RSVP-TE, OSPF-TE
- MPLS Fast Reroute
- MPLS Martini Pseudo-wire (Ethernet, PPP, HDLC over MPLS)

Quality of Service/Traffic Management
- RED, WRED, DiffServ, bandwidth guarantee/sharing, flow monitoring, traffic policing
- 8 level Priority Class Based Queuing per IP address/subnets, ports, DSCP and ToS bits, VLAN ID (802.1Q), VLAN Priority (802.1p)
- Frame Relay traffic shaping and policing
- VLAN Classification (port, subnet or protocol-based)

Firewall
- Stateful Packet Inspection Firewall
- 25-zone support (including Corporate, Internet, DMZ)
- Access Control Lists (ACL)
- NAT, including policy-based NAT/PAT
- 60+ Distributed Denial of Service (DDoS) Attack Preventions
- 30+ ALG support (including H.323/SIP)
- Pass through IPSec, L2TP, PPTP

VPN Option
- Optional VPN acceleration hardware
- IPSec VPN
- DES/3DES, AES, SHA1, MD5
- Avaya VPN Client support
- NAT-Traversal
- 1000 VPN tunnels

Maximum Performance
- IP routing throughout (64 byte):
  - Up to 370,000 pps across SR 4134
  - Up to 3 Mpps on optional 10-port 1 Gig module when ingress/egress is across the module
- IPSec (3DES) throughput (1450 byte): 470 Mbps

Voice Signaling Support
- T1/E1 ISDN PRI (User side)
- ISDN BRI (User side)
- T1 CAS
- E1 R2 CAS
- Q Signaling (QSIG)
- FXS (Foreign Exchange Station)
- FXO (Foreign Exchange Office)
- Direct Inward Dialing (DID)
- Centralized Automated Message Accounting (CAMA)
- E-911 emergency calling

SIP Survivability Calling Features
- Inbound/outbound PSTN calling
- Intra-branch calling
- Call hold, consultation hold
- Call transfer (attended, unattended)
- 3-way conferencing
- Click to dial
- SIP user registration

Codecs Supported
- G.711 - A-law and u-law
- G.726 - 16, 24, 32 Kbps
- G723.1 - 5.3, 6.3 Kbps
- G.729A - 8 Kbps

Account Manager or Avaya Authorized Partner or visit us at: **www.avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

Other Voice Gateway Features

- TDM to IP, IP to TDM conversion
- ITU G.168 Echo Canceller
- Voice Activity Detection/Comfort Noise Generation
- DTMF digit detection
- Caller ID generation and detection
- T.38 fax relay / Fax and Modem Pass-through
- Up to 128 DSP channels

"VoIP-Friendly" Features

- Low-latency packet forwarding
- SIP ALG for NAT and Firewall
- Cone NAT (for Avaya UNIStim protocol) with NAT hairpinning
- Frame Relay fragmentation (FRF.12)
- Compressed RTP (cRTP)

Service Provisioning

- Management: Telnet, SSHv2, SFTP, PAP, CHAP, SNMPv2, DHCP, DNS Proxy, SNTP, RADIUS, TACACS+
- Monitoring: Syslog, statistics, RMON, alarm
- Diagnostics: BERT, loopback testing, trace route, packet capture (PCAP)

Physical Specifications

Chassis

- Height x Width x Depth: 3.5" H x 17.3" W x 19.7" D
- Weight with Power Supply: 22 lbs (10.0 kg)
- Chassis Slots:
  - 3 medium module slots
  - 4 small module slots
  - 1 large module slot (combining 2 medium slots)
  - All slots are hot swappable
- 2 x 10/100/1000 Ethernet copper / 2 x GigE SFP Fiber ports
- Management ports:
  - Compact Flash
  - USB
  - Fast Ethernet
  - Auxiliary and Console ports RJ-45

Module Options

- Small Modules
  - 1 and 2-port T1/E1
  - 1 and 2-port Serial
  - 2-port ISDN
  - 2 and 4-port FXO
  - 2 and 4-port FXS
  - 1-port ADSL2+ (Annex A)
- Medium Modules
  - 8-port T1/E1
  - 1-port T3/DS3 (channelized and un-channelized)
  - 1-port HSSI module
  - 24-port 10/100 Fast Ethernet (PoE and non-PoE)
  - 10-port 10/100/1000 Gigabit Ethernet
  - 4-slot Carrier module for voice cards

Redundant Power options

- AC Power Supply – 50-60 Hz 90-269 VAC, 250 Watts
- AC Power Supply with PoE – 50-60 Hz 90-269 VAC, 250 Watts; separate +54VDC supply isolated from main AC supply: AC input between 90 and 269 VAC, 410 Watts.
- DC Power Supply – 40 to 72 VDC, 250 Watts

Environmental

- Operating Temperature: 32° to 104°F (0° to 40°C)
- Non-Operating (Storage) Temperature: -4 to 140 F (-20 to 60 C)
- Relative Humidity: 0 to 95% (non-condensing)

Regulatory Approvals

- Safety: CTUVus and GS Certification: UL60950-1, EN60950-1 and IEC60950-1 (International CB Report)
- EMC: Class A Product, FCC Part 15, ICES-003, EN300386, EN550022, EN55024, VCCI
- Telecom : TIA-968-A, CS-03, ETSI TBR 3/4, 12/13, JATE, A-Tick

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
07/13 • DN5107-06

AVAYA

avaya.com

Avaya Visualization Performance and Fault Manager

The growing myriad of communications devices, the rising demand for anytime-anywhere connectivity and the increasing need for convergence have created new challenges to network operations — including how to manage the whole system from end to end.

Avaya understands network management and recognizes that offering you the right networking tools can lead to positive and significant benefits for your business. For example, network applications that automate tasks and reporting can improve efficiency. Having management tools within a single unifying framework can help improve workflow, reduce training requirements and decrease the complexity of managing a 'hyperconnected' network and provide you with a smooth path to unified communications.

To address the challenges of hyperconnectivity and the need for convergence, Avaya introduces the Visualization Performance and Fault Manager (VPFM) — a powerful Unified Communications Management (UCM) application that provides advanced network discovery, topology visualization, fault and performance management.

End-to-end visibility in a multi-vendor environment

The VPFM can discover every device on your network, even if you deploy equipment from numerous vendors. The application transforms complex network topology into simple-to-use, hierarchy-based maps, giving you clear, end-to-end views that help you quickly determine if network issues are physical or logical in nature.

With insight into how devices are connected and performing, you can zero in on aspects of the network and reduce your meantime to repair. Personnel can be dispatched quickly, which can result in less downtime, greater productivity, higher user satisfaction and a proactive rather than reactive network management environment.

The VPFM can help increase productivity for support personnel as well as every user on the network. The application enables you to determine that a switch has gone down, view which users are connected to the switch, and perform impact analysis. For example, if an email server fails, the VPFM allows you to identify which users are affected and

Unified Communications Management

The Visualization Performance and Fault Manager is an integral part of the Avaya Unified Communications Management (UCM) solution. This solution leads the industry in offering comprehensive, integrated management capabilities across data and voice over both wired and wireless networks. Solution benefits include:

- Sharing of information across applications helping reduce data entry and the potential for errors
- Web-based, centralized authentication with single sign-on helping ensure easy and secure access to all management applications
- Easy-to-use templates and wizards easing the ramp up on new technologies
- Common look and feel across applications helping decrease the learning curve for IT personnel
- Application co-residency allowing application hosting on the same servers

avaya.com

Highlights of the Visualization Performance and Fault Manager

Heterogeneous network discovery
- Support for standards-, proprietary-, application- and OS-based discovery
- Device information can be used to provide a network inventory listing

Network visualization
- Hierarchy-based topology and service-based views
- Device connectivity and their relationships to each other

Fault management
- SNMP Trap Receiver and Syslog Collector
- Event correlation
- Device status monitoring
- Event handling and scripting
- MIB compiler/browser

Performance management
- Instance-based performance monitoring (MIB-browser based)
- Long-term (trending) performance monitoring

Diagnostics management
- Layer 2 and 3 diagnostics management, including tools such as ICMP ping, SNMP Gets, MIB Walker/ Browser, etc.
- Diagnostic information can be exported in graphical format

Scopes (device classification)
- Devices can be classified based on their function in the network (e.g., core switches, Internet routers)
- Information gathered through the VPFM can be used for performance management trending and event handling

take proactive measures, such as sending a broadcast voicemail to say, "We're aware of the issue, and working to resolve it."

Network discovery
The VPFM offers heterogeneous rather than domain-based network discovery with support for standards-, proprietary-, application- and OS-based discovery. Therefore, if a device is IP or SNMP-based, the VPFM can discover it. Discovery applies to servers, end nodes and operating systems.

The application discovers all IP devices and nodes attached to the network, including servers, storage servers, printer servers, switches, routers, user end nodes (e.g., PCs and laptops), IP phones and more. In addition, the VPFM identifies the relationships that exist among devices in the network, including topology and links. Operating systems and applications on servers can also be part of the discovery process if operating system security settings allow.

Network visualization
Once devices are identified through discovery, VPFM takes complex network topologies — consisting of multiple geographic locations, multiple devices, hundreds or even thousands of devices connected to the network — and transforms them into simple hierarchy-based topology views. It shows degrees of device connectivity based on device function and where it is located in the network (i.e., a layered environment approach).

The visualization function also includes VoIP service-based views that provide you with insight into the application. Having service-based views enables you to differentiate between physical connectivity and logical- or application connectivity issues.

Finally, the VPFM provides device-centric views that enable you to see the relationship between devices. For example, it can identify a switch and all the devices connected to it, enabling you to perform impact analysis.

Fault management
Once the issue(s) have been identified through network visualization, you can use the VPFM to monitor the network for faults. Using information collected from the network and the devices themselves, the VPFM performs status monitoring and sends the information that you need to do event correlation and route-cause analysis (RCA). The VPFM determines what is

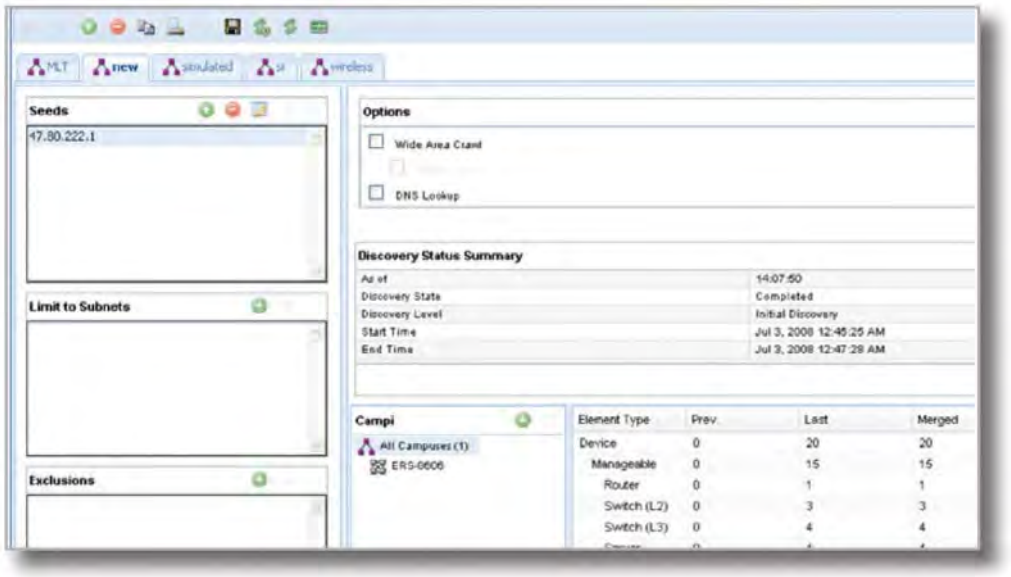


Figure 1. Discovery and Inventory Dialog Window

avaya.com

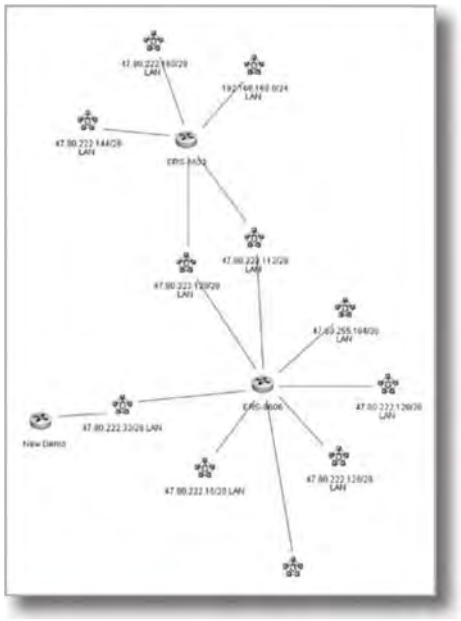


Figure 2. Network Connectivity View

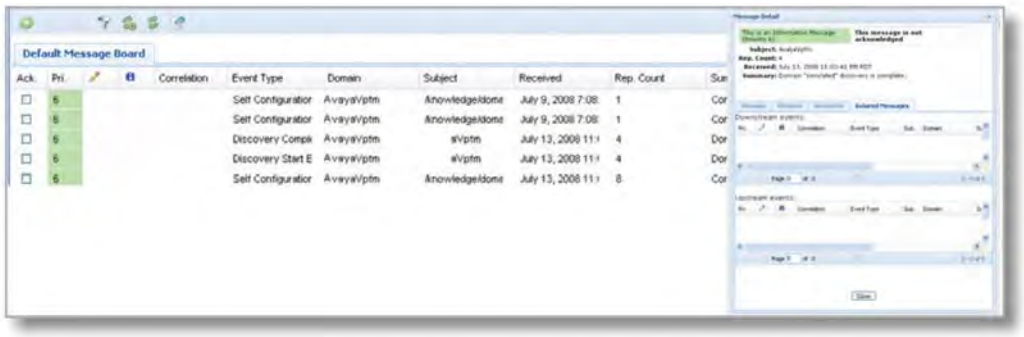


Figure 3. Fault Management

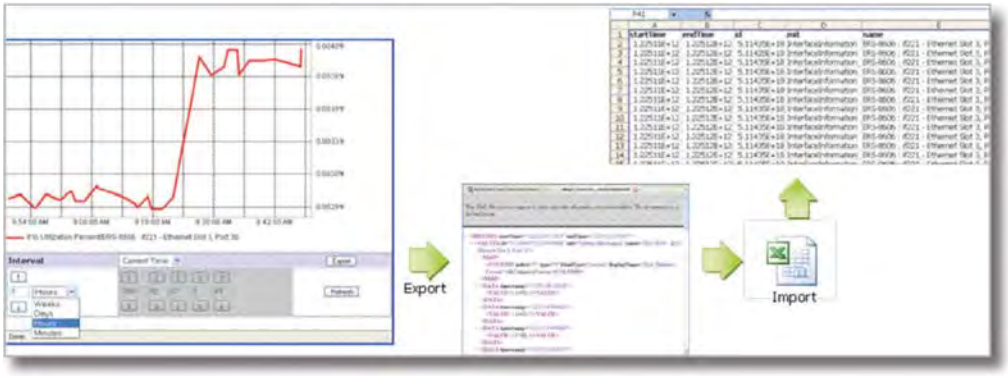


Figure 4. Performance Trending and Data Export for Capacity Planning

the most likely cause of the network outage by correlating all network events and determining the primary and secondary devices affected.

Fault management also performs event handling. If an event occurs on a specific device, the VPFM will know that it has to take a certain action — for example, send an email notification or page the appropriate personnel. The parameters and action required are defined by the administrator during the configuration phase.

Performance management

Through the VPFM, you can use performance management for two key activities: capacity planning and change monitoring within the network. In the latter case, the VPFM enables you to monitor modifications to the network — such as the addition of a new switch — and observe how the device performs in the short term.

From a longer-term perspective, the VPFM performance management capability also provides crucial information that can help you address your capacity planning requirements. For example, if traffic on a particular link begins to exceed a pre-determined threshold, such as 30 percent, the VPFM can record and report on the performance. If the trend continues, you can plan changes to your network accordingly to address growing traffic.

Diagnostics management

Diagnostic management allows the network operator to run and collect diagnostic data from network devices. The VPFM provides Layer 2 and 3 diagnostic information in an end-to-end connectivity rather than a hierarchical view. Through this capability, you can also print and export the data in graphical format.

Scope/device classification

The VPFM includes scope or device classification, a capability that provides a logical grouping of devices based on device type. By default, all devices are classified based on their discovered attributes, such as servers, routers and switches. You can also define the scope on a more granular basis that has relevance to your operations. Once grouped, you can treat the devices as a single unit for the purpose of collecting performance information, conducting events handling, status propagation, etc. For example, if a link fails for any of the devices within the defined logical unit (e.g., core switches), you can configure the VPFM to perform event handling on that classification.

Device scope can also be used for fault management and performance management and trending.

Flexible licensing

VPFM is licensed on a node count and is available to you at three licensing levels:

- Base license
- Incremental license
- Enterprise license

Supported devices

The VPFM can discover and monitor any IP/SNMP device on the network. For full device management, the device's Enterprise MIB must be compiled into VPFM.

Summary

A Unified Communications Management application, the Avaya Visualization Performance and Fault Manager enables you to discover and visualize every aspect of your network, monitor existing performance, resolve issues quickly today — and make informed decisions for the future.

Learn More

To learn more about Avaya Unified Communications Management solutions and Avaya Visualization Performance and Fault Manager, contact your Avaya Account Manager or Avaya Authorized Partner. Or, visit us online at **avaya.com**.

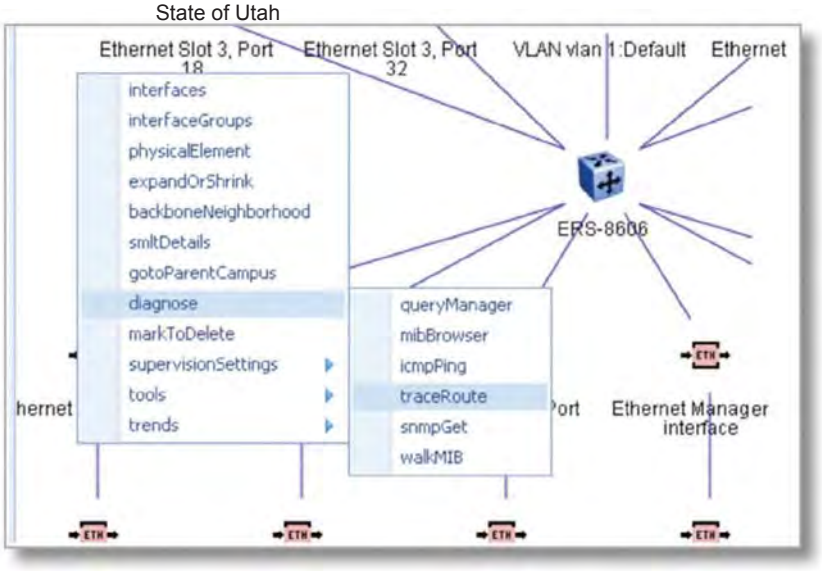
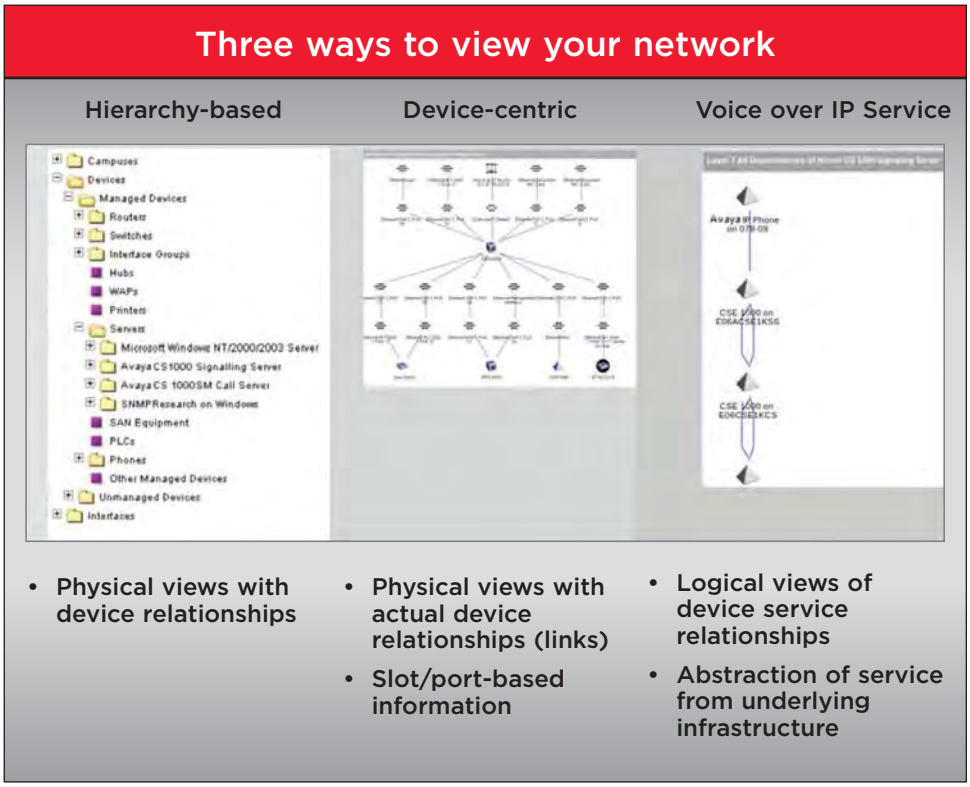


Figure 5. Diagnostics Management



About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit www.avaya.com.

AVAYA
The Power of We™

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries.
All trademarks identified by ®, TM or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein.
References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
07/11 • DN4762-02

avaya.com

Avaya Virtualization Provisioning Service

Delivering visibility, validation, automation and reporting across applications, servers and network devices for the next-generation Virtualized Data Center

The Avaya Virtualization Provisioning Service is a management tool that automatically synchronizes the network to react to changes in the compute environment - increasing IT efficiency, reducing time to service and ensuring consistent application performance - in a highly dynamic, virtualized data center environment.

Highlights

- Automates service provisioning within the data center
- Provides insight into the entire Virtual Machine (VM) lifecycle from activation, to mobility, to deletion
- Gives an end-to-end view of the virtualized data center including applications, servers and network devices across both physical and virtual environments
- Provisions network devices to "follow" VMs as they migrate between servers
- Applies connectivity services and port profiles (QoS, ACLs) to edge devices at an individual VM level
- Provides historical reporting and tracking on VM moves and network provisioning
- Enables network and server teams to work more efficiently and smarter together

It's a Virtual World

It's a fact. Server virtualization is already well adopted.[1] The savings, both through consolidation of multiple servers and dramatic reductions in power and cooling requirements, have been significant. The next step for many enterprises is mobilization of Virtual Machines - where VMs migrate from server-to-server, from corporate data center to data center, and from private to public clouds. These moves can be triggered by maintenance schedules, failures in the underlying server, exceeding server performance thresholds or for disaster avoidance (i.e. hurricane forecasted near a data center).

While VM mobility offers a number of benefits, it can create a number of challenges on the networking side:

Inconsistent application performance. While Virtual Machines can dynamically move between servers, corresponding network configuration on the edge device cannot. Without appropriate configuration of the edge port that is connected to the new server there can be inconsistency in application performance, a reduced or complete lack of connectivity, and security and compliance challenges.

[1] Yankee Group's Anywhere Enterprise—Large: 2009 U.S. Transforming Infrastructure and Transforming Applications Survey, Wave 1-12, reveals that 71 percent of responding organizations have already deployed server virtualization.

Inefficient troubleshooting. Typically server administrators have a view of the virtualized server topology and network administrators have a view into network topology. When these two worlds remain separate in a dynamic virtualized environment, troubleshooting application performance and network connectivity issues can be a lengthy, inefficient process.

Avaya Virtualization Provisioning Service

Virtualization Provisioning Service is a management tool that enables visibility, validation, reporting and provisioning process optimization for network infrastructure, servers, and applications across both physical and virtual environments within the next-generation virtualized data center.

Virtualization Provisioning Service, a plug-in to Avaya Configuration and Orchestration Management, can be co-located on the same server as Configuration and Orchestration Management and, once installed, looks like any other Configuration and Orchestration Management manager. Virtualization Provisioning Service utilizes Configuration and Orchestration Management for network device inventory and topology, device configuration features (VLAN, ACL and port setting features) and for setting device credentials, roles and permissions.

Virtualization Provisioning Service delivers a complete view of the end-to-end virtualized Data Center by providing a relay mechanism between Configuration and Orchestration Management and server virtualization management tools. In its initial release, Virtualization Provisioning Service supports VMware's vCenter management platform, with server configuration and management platforms from other vendors to be added in future.

Virtualization Provisioning Service will evolve towards delivering a complete IEEE 802.1Qbg framework enabling a standards-based multi-vendor end-to-end Data Center virtualization management platform.

A Component of the Avaya Virtual Enterprise Network Architecture

Virtualization Provisioning Service is an important component of the Avaya Virtual Enterprise Network

Virtualization Provisioning Service is a management tool that enables visibility, validation, reporting and provisioning process optimization for network infrastructure, servers, and applications across both physical and virtual environments within the next-generation virtualized data center.

Avaya Virtualization Provisioning Service Key Benefits

- Increases IT efficiency
  - Streamlines data center provisioning processes, helping ensure freedom from error and delay.
  - Synchronizes network to changes made in the virtualized server environment.
  - Resolves network issues faster through an end-to-end view of the virtualized network, spanning applications, servers and network devices.
- Reduces time to service for deploying new applications
  - Deployable within and between data centers, the Virtual Enterprise Network Architecture Virtual Services Fabric limits network provisioning to the edge.
  - Reducing time required to activate or to make changes to applications or services, Virtualization Provisioning Service automates edge provisioning based on changes to the application / server environment.
- Delivers consistent application performance in a highly dynamic, virtualized environment
  - Alleviating connectivity and/or performance issues, Virtualization Provisioning Service ensures that corresponding network devices are appropriately provisioned before VMs are activated and moved.

Architecture, an open, end-to-end virtualization architecture that enables enterprises to build their own private cloud infrastructure – extensible from data center to campus and beyond.

Customers today are looking to increase efficiency and become more responsive by reducing time-to-service. Virtual Enterprise Network Architecture achieves this by simplifying the design, deployment, and management of the next-generation network, starting with the data center.

Creating a unified fabric (the Virtual Enterprise Network Architecture Virtual Services Fabric) within and between data centers establishes an infrastructure that is highly resilient, maximizes use of available bandwidth and simplifies provisioning of the logical network by decoupling it from the physical infrastructure, which significantly improves support for a virtualized server environment and, more importantly, for VM mobility. With a unified fabric, new applications and services are instantiated at the edge of the Virtual Services Fabric, obviating the need for re-designs or configuration changes in the core. With Virtualization Provisioning Service, all edge provisioning can be automated, dramatically reducing the time required to activate or make changes to applications or services.

Delivers a complete Virtualized Data Center View

Virtualization Provisioning Service connects with VMWare's vCenter and registers for real-time updates. Synchronization between Virtualization Provisioning Service and VMware vCenter can be configured to occur automatically (in set time intervals) or can be initiated by the end user manually. VMware vCenter provides the virtualized server topology (VMs and vSwitches) with information on which VMs are active, where they reside (switch, port, time), which VLANs they are associated to and which QoS/QoE parameters have been assigned. By stitching this information to network topology information (automatically discovered through Configuration and Orchestration Management), Virtualization Provisioning Service provides an invaluable end-to-end view of the virtualized data center, enabling network operators to more effectively manage and troubleshoot the network.

Provisions network devices to "follow" VMs as they migrate between servers

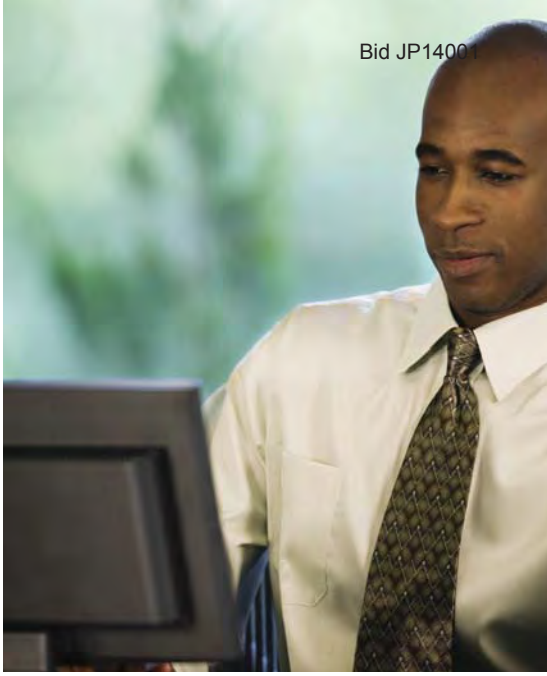
Using its insight into the entire VM lifecycle including creation, migration, cloning and deleting of VMs, Virtualization Provisioning Service updates Avaya devices, as needed, to react to lifecycle changes. As lifecycle changes occur, Virtualization Provisioning Service can apply predefined templates to switch ports when a defined set of rules is matched. Port templates include the connectivity services (VLAN and iSIDs for SPB enabled devices) as well as, QoS, ACLs, port shaping, and bandwidth limiting parameters that can be applied (at a VM level) to the port of the edge device connected to the server.

Users can establish rules and create templates within the Virtualization Provisioning Service rule and template manager. Rules can include a type of VM and lifecycle trigger and an associated action. Users have the flexibility to set up Virtualization Provisioning Service to identify VMs by application type, by IP address, or by which port group it is assigned to so that, when a specified change (such as a move) occurs, a specified action executes. For example, a user could create a rule saying that if a new Microsoft® Outlook VM is created, VLAN ID 100 should automatically be assigned to it, giving that new VM connectivity without any user intervention.

Provisioning changes can be set to occur automatically or manually. In automated mode, changes are applied based on rules that, when applicable, are implemented automatically. In manual mode, an action is proposed to a network operator who can execute the change manually through an intuitive guided workflow.

Ensures network is ready before a VM move takes place

Virtualization Provisioning Service can be configured to receive planning triggers from VMware vCenter, which alerts Virtualization Provisioning Service of pending changes on the VM side. Virtualization Provisioning Service validates whether or not the proposed change requires a change to the network configuration. If a network configuration change is required, Virtualization Provisioning



Workflow Example: Activation of a new Virtual Machine

1) A new Microsoft Exchange VM is requested
2) A "Microsoft Exchange-profile" for the Microsoft Exchange-VM is created in Virtualization Provisioning Service with the required connectivity attributes (VLAN, IP subnet, QoS level, and security filters) filled in by the network operator.
3) The system administrator creates the Microsoft Exchange VM on VMware ESX server
4) Virtualization Provisioning Service ties the Microsoft Exchange VM with the Microsoft Exchange-profile and matches the proper network configuration to the edge device attached to the VMware ESX server either automatically or manually through a guided workflow.

Service makes the change automatically or requests action by the operator before the VM change is implemented. This ensures that network configuration is in place before VMs migrate from one server to another, avoiding potential connectivity and/or performance issues.

Avaya Virtualization Provisioning Service key attributes

Operational choice

Providing flexibility to network operators, Virtualization Provisioning Service can operate in a variety of modes: view and reporting mode, auto-validation mode, or auto-provisioning mode.

View and reporting mode provides an up-to-date, complete physical and virtual, end-to-end topology. In this mode, Virtualization Provisioning Service sends notification and/or alerts on VM changes and provides an updated VM inventory view in Configuration and Orchestration Management and Virtualization Provisioning Service.

In the auto-validation mode, virtual server changes are correlated to the network devices so that required provisioning changes can be detected. Virtualization Provisioning Service alerts the network administrator as to whether or not network ports conform to predefined templates but does not apply a configuration template automatically. Instead, changes can be applied manually, by the operator, through a guided workflow.

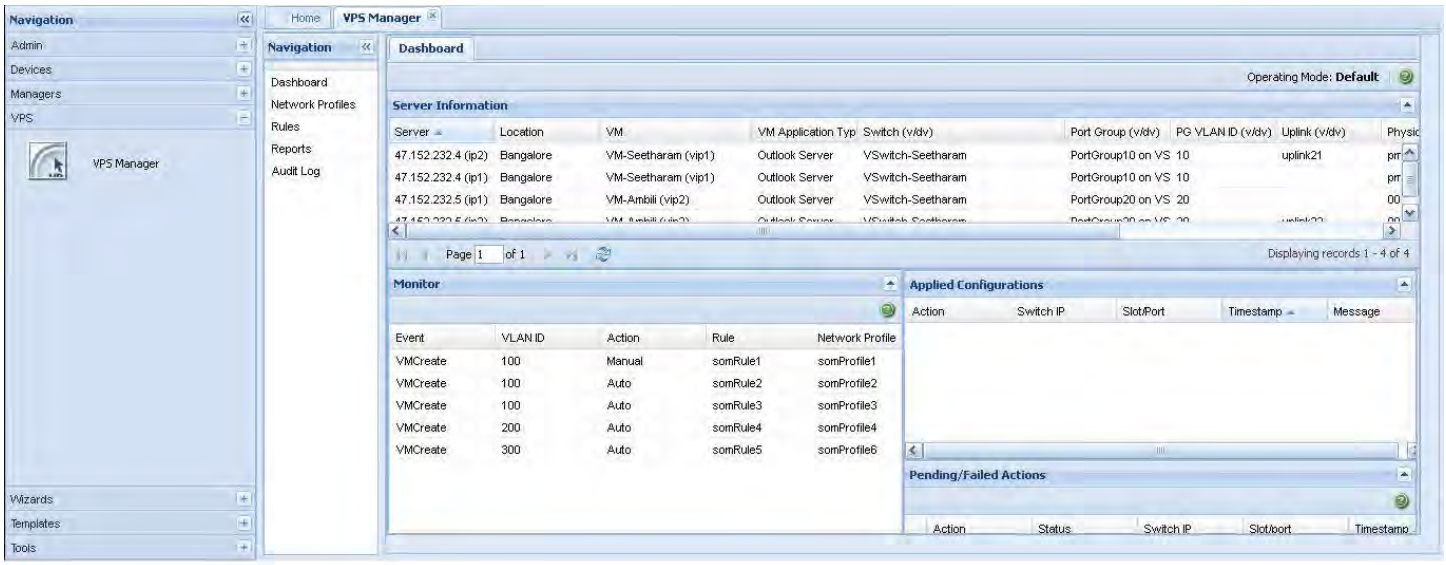
In auto-provisioning mode, where configuration templates are applied automatically, Virtualization Provisioning Service alerts the network administrator as to whether or not network ports conform. If ports do not conform, Virtualization Provisioning Service applies the configuration automatically.

Flexible dashboard

The Virtualization Provisioning Service dashboard provides a real-time view of different aspects of the virtualized data center including: (1) a view of the server environment from vCenter only, providing an active inventory of all VMs, (2) a monitoring view, showing which rules are being applied to which devices, (3) an applied configuration view, showing all successful configuration changes on the various devices, and (4) a pending and failed action view, including all VMware vCenter triggers that were not applied. The Virtualization Provisioning Service dashboard gives end users the flexibility to customize their own layout such as number of panes and which components appear in those panes.

Seamless integration into existing VMware vCenter environment

Virtualization Provisioning Service is an out-of-band management solution that integrates directly into an existing Data Center environment. Unlike competitive solutions requiring replacement of the VMware vCenter vSwitch (performs switching functions for multiple VMs on and between servers), Virtualization Provisioning Service works in conjunction with the VMware vSwitch and does not require its removal. This ensures that Virtualization Provisioning Service installation is completely transparent to the virtualized server environment.



Avaya Virtualization Provisioning Service Dashboard

Service bundles

To help ensure flawless deployment of Virtualization Provisioning Service, Avaya offers both basic and advanced service bundles. The basic service bundle covers Virtualization Provisioning Service installation, integration and operation. The advanced service bundle adds a complete network and server analysis, the creation of a set number of rules and templates specifically tailored to the customer's environment and a full demonstration of the entire Virtualization Provisioning Service workflow in a live network environment.

Devices supported

Avaya network devices - Avaya Ethernet Routing Switch 86xx/88xx, Avaya Ethernet Routing Switch 45xx, Avaya Ethernet Routing Switch 5xxx, Avaya Virtual Services Platform 9xxx and Avaya Virtual Services Platform 7xxx

VMware ESX/ESXi support - ESX 3.x, ESX 4.X

VMware vCenter support – v 2.5.x and 4.x

Learn More

To learn more about Avaya Virtualization Provisioning Service, contact your Avaya Account Manager or Avaya Authorized Partner. Or, visit us online at **avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
06/11 • MIS4741-02

AVAYA
The Power of We™

VSP 4000 Fact Sheet

Simplify your network end to end with the Avaya fabric-enabled multiservice edge device

Simplify your network with the Avaya VSP 4000. Designed to extend the reach of Avaya VENA Fabric Connect technology to the network edge, the VSP 4000 delivers fully featured network virtualization capabilities in a low cost 1 Gig/10 Gig platform optimized for small locations. Offering full multiservice capabilities without deployment of multiple protocols, the VSP 4000 offers a simplified, streamlined way to build and manage networks.

For deployments in small offices where it is desirable to extend fabric technology across the wide area, the metro, or the campus edge or where you need separation of traffic for regulatory/security reasons or to support multiple entities, Avaya VSP 4000 delivers rich multiservice and multi-tenant functionality in a cost-effective platform for small locations.

A new way of building networks

Reflecting the complexity of most networks, a recent Avaya survey of IT managers found that 41% of all respondents need one month or more to implement a simple network change. This is not surprising when even moves, adds and changes, for example, often require cumbersome network-wide configuration that makes them difficult to implement. Fixing one thing can mean breaking something else when rigid design rules and a myriad of protocols are involved. What's needed is more speed, agility, and flexibility in configuring networks – especially when incorporating megatrends such as video, mobility, Cloud Computing, Big Data and the rapid advancement of applications and end devices.

A completely new way to build networks, Avaya Fabric Connect delivers a simplified, agile and resilient infrastructure that makes network configuration and deployment of new services faster and easier. A standards-based fabric technology based on enhanced IEEE 802.1aq Shortest Path Bridging and IETF 6329, Avaya VENA Fabric Connect combines decades of experience with Ethernet and Intermediate System-to-Intermediate System (IS-IS) to deliver a next generation technology that combines the best of Ethernet with the best of IP. Avaya VENA Fabric Connect creates a multipath Ethernet network that leverages IS-IS routing to build a topology between nodes dynamically. Traffic always takes the shortest path from source to destination, increasing performance and efficiency.

Avaya Fabric Connect takes the complexity out Ethernet. Delivering a comprehensive array of network services, including Layer 2 and Layer 3 virtualization with optimized routing and IP multicast support, it allows customers to phase out multiple complex legacy technologies gradually and to enable all services through a single, next-generation technology.

Accelerating time to service and reducing errors, simple end point provisioning can extend any service anywhere in the

Highlights

Network virtualization end to end - Deploy a single technology across the entire enterprise - from Data Center to desktop. The Avaya VSP 4000, a fabric enabled multiservice edge platform optimized for small locations, enables you to extend the benefits of Avaya VENA Fabric Connect to the edge of the network.

Deploy multiple services without multiple protocols - The VSP 4000 delivers a comprehensive array of network services including Layer 2 and Layer 3 virtualization with optimized routing. Phase out multiple complex legacy technologies and, instead, enable all services through a single, next-generation technology.

Increase network agility - With end point provisioning, deploying new services and activating moves, adds and changes has never been easier. Eliminate hop-by-hop manual provisioning to increase IT efficiency and to reduce the risk of an outage as a result of human error.

Protect your investment with a standards-based technology - The VSP 4000's Fabric Connect technology is based on open technology, IEEE 802.1 aq Shortest Path Bridging and IETF RFC 6329, that prevents vendor lock-in.

Increase resiliency - With sub second recoveries for all services, VSP 4000 makes network issues transparent to applications and users.

Save money - A fabric-based network can deliver tremendous OPEX savings - in the form of reduced complexity and simplified provisioning - especially when extended to small locations.

"Avaya VENA Fabric Connect greatly simplifies the deployment of vital business applications, potentially reducing delivery times by days or even weeks and taking human error out of the equation," says Mike Kincaid, Manager of Network Services and Telecommunications at UC Health.

infrastructure. Physical topology becomes irrelevant and complex design rules are eliminated, enabling network operators to build any logical topology wherever and whenever it's required.

Compared to a traditional network, Avaya Fabric Connect offers a dynamic, agile network that is much easier to plan, build and run.

VSP 4000: Extending Avaya VENA Fabric Connect to the network edge

VSP 4000 is an industry leading fabric-enabled multiservice edge device that extends Avaya Fabric Connect to the Campus, MAN or WAN edge by providing a services-rich yet low cost platform for small sites. It plays a critical role in delivering enterprise-wide fabric architecture that spans from Data Center to desktop.

Leveraging the robust, field-proven, carrier-grade Linux operating system of the Avaya Data Center core switch, the VSP 9000, the VSP 4000 provides a consistent feature set and CLI. Its operating system contains many of the same features that contribute to the robustness of the VSP 9000 core platform including:

- Flight recorder-style logging to help with continuous real-time monitoring of internal control message flows
- Key Health Indicators that provide a view of system health at all levels (OS, system applications /protocols I/O modules, ports and the forwarding path)

VSP 4000 hardware is based on the ERS 4800 product line. Customers can purchase new VSP 4000 systems from the factory (with a choice of three model variants) or can purchase a kit that enables ERS 4850 models, rev 10 and higher, to be converted (by adding a software module and cover) to a VSP 4000 system.

Traditional Networks	Avaya Fabric Connect
Complex: • Multiple protocols (STP, RIP, OSPF, BGP, PIM) • Network design rules • Cumbersome adds moves and changes • Network wide configuration (STP groups, VLANs, hop by hop)	Simple: • Single protocol (IS-IS) • Design flexibility (Independent from physical topology, services can be added wherever needed) • Quick adds, moves and changes • Single-command end point provisioning for new services and changes to services
Inefficient use of resources (blocked ports)	Efficient use of resources (no blocked ports, optimized shortest latent path from source to destination)
Slow recovery (generally seconds)	Sub second recovery

VSP 4000 Models:

The VSP 4000 comes in three model variants:

VSP 4850GTS - 48 ports of 10/100/1000 including two shared SFP and two SFP+ uplink ports with optional redundant power.

VSP 4850GTS-PWR+ - 48 ports of 10/100/1000 with PoE+ including two shared SFP and two SFP+ uplink ports with optional redundant power.

VSP 4850GTS-DC - 48 ports of 10/100/1000 including two shared SFP and two SFP+ uplink ports with optional DC redundant power.

VSP 4000 Services Overview:

The VSP 4000 offers a wide range of network services that can be deployed simply and easily. The first release supports:

- Layer 2 Virtualized Services that extend VLANs across the Fabric (including across subnets and long distances)
- Layer 3 Virtualized Services that interconnect and extend VRFs across the Fabric
- Native routing between Layer 2 and Layer 3 Virtualized Services for access to shared services.
- IP Shortcut Routing that enables direct Layer 3 connectivity between individual end-points without requiring deployment of additional IGPs.

Advanced Avaya VENA Fabric Connect services, such as IP multicast shortcuts and IP multicast virtualization, will be added by the end of the year.

VSP 4000 Deployment Scenarios:

Offering a multiplicity of services, VSP 4000 is well suited to a wide array of deployment scenarios including:

- Virtualized small / mid-sized enterprise
- Distributed enterprise

A deployment may require either or both of the following (which are discussed in detail further down in this document):

- End to end traffic separation for multi-tenancy or for security / regulatory compliance (i.e. PCI DSS)
- Integrated video surveillance

Virtualized Small / Midsized Enterprise

The Avaya VENA Fabric Connect strategy includes delivering the value of fabric based technology to any size company. Providing a small-to-midsize enterprise solution that is both feature-rich and cost effective, the VSP 4000 can be deployed with VSP 7000 in the core to enable a simplified, agile, resilient network. Supporting Avaya VENA Fabric Connect technology, the VSP 7000 is a fixed-format 10 Gig optimized device that offers a rich network core and advanced functionality. Deployed together, this powerful combination enables the main stream adoption of fabric technology by making it cost-effective for the smaller enterprise.

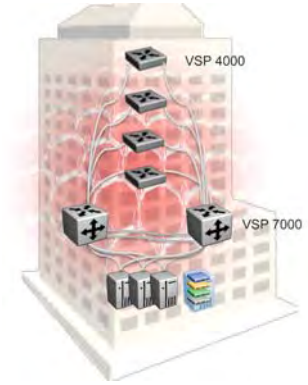


Figure 1: Virtualized Small / Midsized Enterprise

Traffic Separation: Traditional Networks	Traffic Separation: Avaya Fabric Connect
Complex: • Multiple protocols (IGPs, BGP, MPLS) • Complex to configure (VRFs, IGP, iBGP, MPBGP, route targets, route distinguishers) • Complex to move, add and change tenants	Simple: • Single protocol (IS-IS) • Easy to configure (VRF to ISID) • Easy to move, add and change tenants
Slow recovery (generally in seconds)	Fast recovery (sub second)
No true traffic isolation	True traffic isolation; meet regulatory requirements
Vulnerable to security breaches (VLAN jumping)	Secure (MAC in MAC encapsulation prevents VLAN jumping)

Distributed Enterprise

For Avaya VENA Fabric Connect technology to truly transform the network end to end, it must extend to remote locations. Enabling a single technology that can be used throughout the network, the VSP 4000 provides connectivity to remote sites across Service Provider Point-to-Point Ethernet Services (E-Line) and allows Avaya VENA Fabric Connect to connect to sites that extend across metro area networks, VSP 4000s can be deployed over a physical ring based infrastructure.

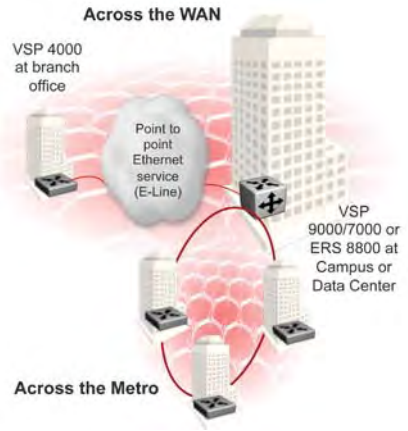


Figure 2: Distributed Enterprise

End to End Traffic Separation to support Multi-tenancy

Within any type of enterprise environment, end-to-end traffic separation may be required to support multi-tenancy. Airports, universities, governments, healthcare and enterprises engaged in acquiring other entities, for example, sometimes want to segregate traffic while offering some shared services.

With its integrated VRF capabilities, Avaya VENA Fabric Connect allows Layer 3 networks to be deployed easily across the fabric with simple end point provisioning. Acting as a low-cost multi-tenant demarcation service that supports and isolates traffic from multiple entities, the VSP 4000 makes a critical contribution to the environment.

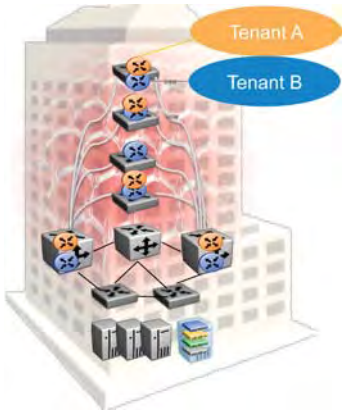


Figure 3: End to End Traffic Separation to support Multi-tenancy

End to End Traffic Separation for Security or Regulatory Reasons

For security or regulatory reasons enterprises may need to separate traffic end to end. Examples include protecting credit card transactions,

We designed a L3 network over our Avaya fabric for credit card transactions and keep it totally isolated from the other student and staff traffic. This allows us to meet PCI DSS compliance for the banks very easily. Plus to implement, we didn't need to make changes all the way through the core in order to segment the traffic.

- Phil Taylor, Communications Consultant from Leeds Metropolitan University

medical equipment or surveillance cameras from other network traffic or, in any vertical, separating VoIP and managing it independently.

With its integrated VRF capabilities, Avaya VENA Fabric Connect allows Layer 3 networks to be deployed easily across the fabric and kept isolated end to end. This, in addition to Mac-in-Mac encapsulation at the edge, can deliver the multiple networks required and offer additional security by preventing breaches like VLAN jumping.

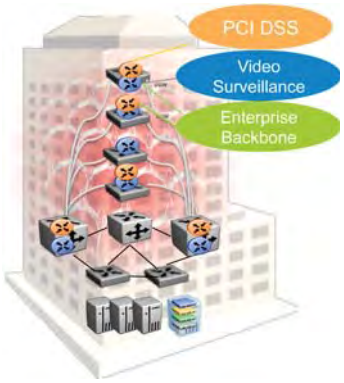


Figure 4: End to end traffic separation for security or regulatory reasons

IP multicast: Traditional Networks	IP multicast: Avaya Fabric Connect
Complex: • Multiple protocols (PIM over OSPF) • Complex to operate and troubleshoot (proprietary tools) • Network wide configuration (boot strap routers, rendezvous points)	Simple: • Single protocol (IS-IS) • Easy to operate and troubleshoot (IEEE 802.1 ag extensions) • Single command end point configuration
Recovery from failures seconds even minutes	Fast recovery (sub second)
Limited scale (100's of streams)	Massive scaling (10's of thousands of streams)

Integrated Video Surveillance

Verticals such as transportation, government and hospitality often rely on video surveillance technology to protect people and products and, while it is evolving toward multicast, video surveillance still relies largely on unicast traffic. VSP 4000 supports unicast today and will support multicast connectivity in a future release - without requiring additional IGPs or PIM protocols. In addition, VSP 4850GTS-PWR+ devices, which also support IEEE 802.3at PoE+, can power new point tilt and zoom cameras.

Avaya Fabric Connect technology is built from the ground up to handle Multicast trees efficiently since Broadcast and Multicast forwarding are inherent functions within Ethernet. Enabling the network to instantiate point-to-point, point-to-multi-point and any-to-any connectivity services on demand, Avaya VENA Fabric Connect offers a highly efficient, scalable, more resilient way to distribute multicast.

Compared to traditional IP multicast implementations, Avaya VENA Fabric Connect offers the following benefits. (see table above)

Management

The Avaya Virtual Services Platform 4000 can be managed by a variety of management tools, creating a flexible operational environment based on business requirements. These include: standardized Command Line Interface (CLI), Web-based Enterprise Device Manager (EDM), SNMP-based management (SNMP v1, v2 & v3), and the evolving Unified Management framework for comprehensive, centralized, and multi-facetted network management. Based on common services – authentication and access control, audit, etc. – plus a number of integrated AJAX-based plug-in applets that deliver seamless task-specific capabilities, all have a consistent look and feel: Configuration & Orchestration Management; Visualization, Performance and Fault Management; and IP Flow Manager.

Enabling a more streamlined, accurate, intelligent approach to delivering device-centric and network-wide management services, the entire Avaya VENA Fabric connect management framework is context based. Provision wizards, along with other labor-saving tools, provide faster service activation with a more consistent approach to configuration and, because wizard templates are pre-populated with best-practice recommendations and/or mandatory values, human-error is minimized.

Lifetime warranty

Avaya includes comprehensive warranty services for its portfolio of stackable switches, including Fabric Connect edge devices. Complimentary next-business-day shipment of failed units is provided for the full life of the product in addition to next-business-day shipping to replace failed hardware worldwide. Avaya also offers complimentary basic technical support: Level 1 for the supported lifecycle of the product and up to Level 3 for the first 90 days after purchase including support for the shipped software version with an optional Software Release Service. Based on the industry norm for hardware, 'Lifetime' is defined as the production lifecycle phase plus 5 years post-discontinuation. And, for customers desiring protection over and above warranty provisions, Avaya offers a full suite of support services.

Summary

Deployed in conjunction with other Avaya Fabric Connect solutions, the VSP 4000 can increase profitability and productivity, streamline business operations, lower costs and help your business gain a competitive edge. Offering a simple, more elegant approach to deployment of all L2/3 services, Avaya is a leader in fabric-enabled networking.

Learn more

To learn more about the Virtual Services Switch 4000 series, please contact your Avaya Account Manager or Avaya Authorized Partner. Or, visit us online at **avaya.com**.

VSP 4850GTS

Switch details	48 10/100/1000 Gigabit Ethernet ports 2 shared SFP ports Plus 2 x 1/10 Gigabit SFP+ ports System CPU operates at 533 MHz Switch is configured with 1GB RAM RJ-45 Console port provides industry standard serial port connectivity Ships with 1 set of 44mm/19" rack mount brackets
Dimensions	4.4cm – 1RU (H), 44.0cm (W), 43.68cm (D)
Weight	11.48 Kg
Power and Thermal	Supplied with 1 x 300 watt Field Replaceable AC power supply Supports addition of second Field Replaceable AC power supply for redundancy Thermal Rating 323 BTU/hr

VSP 4850GTS-PWR+

Switch details	48 10/100/1000 Gigabit Ethernet ports 48 ports support IEEE 802.3at PoE+ 2 shared SFP ports Plus 2 x 1/10Gigabit SFP+ ports System CPU operates at 533 MHz Switch is configured with 1GB RAM RJ-45 Console port provides industry standard serial port connectivity Ships with 1 set of 44mm/19" rack mount brackets
Dimensions	4.4cm – 1RU (H), 44.0cm (W), 43.68cm (D)
Weight	11.98 Kg
Power and Thermal	Supplied with 1 x 1000 watt Field Replaceable AC power supply Supports addition of second Field Replaceable AC power supply for redundancy or additional PoE Thermal Rating 383 BTU/hr
Maximum PoE budget	855 watts when operating on one 1000w power supply 1855 watts when operating on two 1000w power supply

VSP 4850GTS-DC

Switch details	48 10/100/1000 Gigabit Ethernet ports 2 shared SFP ports Plus 2 x 1/10 Gigabit SFP+ ports System CPU operates at 533 MHz Switch is configured with 1GB RAM RJ-45 Console port provides industry standard serial port connectivity Ships with 1 set of 44mm/19" rack mount brackets
Dimensions	4.4cm – 1RU (H), 44.0cm (W), 43.68cm (D)
Weight	11.48 Kg
Power and Thermal	Supplied with 1 x 300 watt Field Replaceable DC power supply Supports addition of second Field Replaceable DC power supply for redundancy Thermal Rating 323 BTU/hr

Technical Specifications

General & Performance

- Frame length: 64 to 1518 Bytes (802.1Q Untagged), 64 to 1522 bytes (802.1Q Tagged)
- Jumbo Frame support: up to 9.6 KBytes
- Multi-Link/LAG: up to 128 Groups, with 8 Links per Group
- VRRP Backup Master
- VLANs: up to 4,084
- Multiple Spanning Tree Instances: up to 12
- MAC Address: up to 32k
- IP Interfaces: 256
- Dynamic ARP Entries: up to 6000
- VRRP Interfaces: up to 64
- IP Forwarding Table: 16k
- IP static Routes: up to 1000
- Circuitless IP Instances: up to 64
- ECMP Routes: up to 512 NH Groups, up to 4 NH per group
- VRF instances (IPv4): up to 24
- SPB L2 VSN: up to 1000
- SPB L3 VSNS: up to 24
- SPB Inter-VSN Routing
- SPB IP Shortcut Routing
- Policy-based Routing
- Ingress & Egress Port ACLs
- Ingress VLAN ACLs
- Enterprise Device Manager GUI, on-box & off-box
- Configuration & Orchestration Manager
- Virtualization Performance & Fault Manager
- Virtualization Provisioning Service
- System Logging
- Mirroring: 1:1 / 1:M / M:1 / M:M
- Key Health Indicators
- Flight Recorder

IEEE & IETF Standards Compatibility

IEEE

- IEEE 802.1Q VLAN Tagging
- IEEE 802.1AX Link Aggregation Control Protocol (LACP)
- IEEE 802.1p Priority Queues
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- IEEE 802.1v VLAN Classification by Protocol and Port
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- 802.1ag Connectivity Fault Management
- 802.1aq Shortest Path Bridging (MAC-in-MAC)
- IEEE 802.1Qbb Priority-based Flow Control
- IEEE 802.3 10BASE-T Ethernet
- IEEE 802.3 CSMA/CD Ethernet (ISO/IEC 8802-3)
- IEEE 802.3i 10BASE-T Auto-Negotiation
- IEEE 802.3u 100BASE-FX
- IEEE 802.3u 100BASE-TX Fast Ethernet (ISO/IEC 8802-3, Clause 25)
- IEEE 802.3u Auto-Negotiation on Twisted Pair (ISO/IEC 8802-3, Clause 28)
- IEEE 802.3x Flow Control on the Gigabit Uplink port
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.3ab 1000BASE-BX Ethernet
- IEEE 802.3ab 1000BASE-CWDM Ethernet
- IEEE 802.3ab 1000BASE-LX Ethernet
- IEEE 802.3ab 1000BASE-SX Ethernet
- IEEE 802.3ab 1000BASE-T Ethernet
- IEEE 802.3ab 1000BASE-XD Ethernet
- IEEE 802.3ab 1000BASE-ZX Ethernet
- IEEE 802.3ae 10GBASE-X

IETF

- RFC 768 UDP Protocol
- RFC 783 TFTP Protocol
- RFC 791 IP Protocol
- RFC 792 ICMP Protocol
- RFC 793 TCP Protocol
- RFC 826 ARP Protocol
- RFC 854 Telnet Protocol
- RFC 894 A standard for the Transmission of IP Datagrams over Ethernet Networks
- RFC 896 Congestion control in IP/TCP internetworks
- RFC 903 Reverse ARP Protocol
- RFC 906 Bootstrap loading using TFTP
- RFC 950 Internet Standard Sub-Netting Procedure
- RFC 951 / RFC 2131 BootP / DHCP
- RFC 959 /RFC 1350 /RFC 2428 FTP and TFTP Client and Server
- RFC 1027 Using ARP to implement transparent subnet gateways/ Nortel Subnet based VLAN
- RFC 1122 Requirements for Internet Hosts
- RFC 1256 ICMP Router Discovery
- RFC 1305 Network Time Protocol v3 Specification, Implementation and Analysis
- RFC 1340 Assigned Numbers
- RFC 1340 Assigned Numbers
- RFC 1519 Classless Inter-Domain Routing (CIDR): an Address Assignment and Aggregati on Strategy
- RFC 1541 Dynamic Host Configuration Protocol1
- RFC 1542 Clarifications and Extensions for the Bootstrap Protocol
- RFC 1591 DNS Client
- RFC 1812 Router Requirements
- RFC 1866 HTMLv2 Protocol
- RFC 2068 Hypertext Transfer Protocol
- RFC 2131 Dynamic Host Control Protocol (DHCP)
- RFC 2138 RADIUS Authentication
- RFC 2139 RADIUS Accounting
- RFC 2474 / RFC 2475 DiffServ Support
- RFC 2475 An Architecture for Differentiated Service
- RFC 2597 Assured Forwarding PHB Group
- RFC 2598 Expedited Forwarding PHB
- RFC 2819 Remote Monitoring (RMON)
- RFC 2992 Analysis of an Equal-Cost Multi-Path Algorithm
- RFC 3046 DHCP Relay Agent Information Option 82

"Avaya is fundamentally changing the way multicast is delivered. When testing their IP multicast over Fabric Connect functionality, all the resources I had in my lab couldn't stress their solution. Also, during failover testing, I was amazed that the network and the multicast service re-converged faster than I could record it. We look forward to working with Avaya to deliver scalable, and efficient video surveillance solutions for our customers."

- Darren Giacomini,
Lead Architect, Pelco

Technical Specifications

Network Management

- RFC 959 File Transfer Protocol
- RFC 1155 SMI
- RFC 1157 SNMP
- RFC 1215 Convention for defining traps for use with the SNMP
- RFC 1271 Remote Network Monitoring Management Information Base
- RFC 1305 (NTP client / unicast mode only)
- RFC 1350 The TFTP Protocol (Revision 2)
- RFC 1354 IP Forwarding Table MIB
- RFC 1757 / RFC 2819 RMON
- RFC 1907 SNMPv2
- RFC 1908 Coexistence between v1 & v2 of the Internet-standard Network Management Framework
- RFC 1930 Guidelines for creation, selection, and registration of an Autonomous System (AS)
- RFC 2541 Secure Shell Protocol Architecture
- RFC 2571 An Architecture for Describing SNMP Management Frameworks
- RFC 2572 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
- RFC 2573 SNMP Applications
- RFC 2574 User-based Security Model (USM) for v3 of the Simple Network Management Protocol (SNMPv3)
- RFC 2575 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)
- RFC 2576 Coexistence between v1, v2, & v3 of the Internet standard Network Management FrameworkRFC 2616 Hypertext Transfer Protocol 1.1
- RFC 2819 Remote Network Monitoring Management Information Base
- RFC 4250 Secure Shell (SSH) Protocol Assigned Numbers
- RFC 4251 Secure Shell (SSH) Protocol Architecture
- RFC 4252 Secure Shell (SSH) Authentication Protocol
- RFC 4253 Secure Shell (SSH) Transport Layer Protocol
- RFC 4254 Secure Shell (SSH) Connection Protocol
- RFC 4255 DNS to Securely Publish SSH Key Fingerprints
- RFC 4256 Generic Message Exchange Authentication for SSH

MIBs

- RFC1155 Structure of Management Information
- RFC 1156 MIB for network management of TCP/IP
- RFC1157 Simple Network Management Protocol (SNMP)
- RFC 1212 Concise MIB definitions
- RFC 1213 TCP/IP Management Information Base
- RFC1215 A convention for defining traps for use with SNMP
- RFC 1354 IP Forwarding Table MIB
- RFC 1398 Ethernet MIB
- RFC 1442 Structure of Management Information for version 2 of the Simple Network Management Protocol (SNMPv2)
- RFC 1450 Management Information Base for v2 of the Simple Network Management Protocol (SNMPv2)
- RFC1493 Definitions of Managed Objects for Bridges
- RFC 1573 Interface MIB
- RFC 1643 Definitions of Managed Objects for the Ethernet-like Interface Types
- RFC 1650 Definitions of Managed Objects for the Ethernet-like Interface Types
- RFC1907 Management Information Base of the Simple Network Management Protocol version 2 (SNMPv2)
- RFC 2021 RMON MIB using SMIv2
- RFC2233 Interfaces Group MIB using SMIv2
- RFC 2096 IP Forwarding Table MIB
- RFC2571 An Architecture for Describing SNMP Management Frameworks
- RFC 2572 Message Processing and Dispatching for the SNMP
- RFC 2573 SNMP Applications
- RFC2574 User-based Security Model (USM) for version 3 of the SNMP
- RFC2575 - View-based Access Control Model (VACM) for the SNMP
- RFC2576 – Coexistence between Version 1, Version 2, and Version 3 of the Internet-standard Network
- Management Framework
- RFC 2578 Structure of Management Information v2 (SMIv2)
- RFC 2674 Bridges with Traffic MIB
- RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol
- RFC2819 Remote Network Monitoring (RMON)
- RFC2851 Definitions of Managed Objects for the Virtual Router Redundancy Protocol
- RFC 2863 Interface Group MIB
- RFC 2925 Remote Ping, Traceroute & Lookup Operations MIB
- RFC3411, RFC3412, RFC3413, RFC3414, RFC3415 SNMPv3
- RFC3416 v2 of the Protocol Operations for the Simple Network Management Protocol (SNMP)
- RFC3826 The Advanced Encryption Standard (AES) Cipher Algorithm in the SNMP User-based Security Model
- RFC4022 Management Information Base for the Transmission Control Protocol (TCP)
- RFC4113 Management Information Base for the User Datagram Protocol (UDP)
- RFC4133 Entity MIB
- IEEE 802.3ad Link Aggregation Control Protocol
- IEEE 802.1x Exensible Authentication Protocol Over Local Area Networks
- PROMIB1 - Rapid City MIB
- PROMIB 2 - SynOptics Root MIB
- PROMIB3 - Other SynOptics definitions
- PROMIB4 - Other SynOptics definitions
- PROMIB5 - Other SynOptics definitions
- PROMIB6 - Avaya RSTP/MSTP proprietary MIBs
- PROMIB11 - Avaya MIB definitions

End to End Traffic Separation Before and After

Compared to traditional networks, which generally rely on complex MPLS based technologies for traffic separation, Avaya Fabric Connect offers a simplified network environment where adding, moving and changing tenants can be accomplished simply and easily with end point provisioning.

Technical Specifications

IEEE & IETF Standards Compatibility (cont.)

VSP 4000 Environmental Specifications

- Operating temperature: 0°C to 50°C (32°F to 122°F)
- Storage temperature: -40°C to 85°C (-13°F to 158°F)
- Operating humidity: 0 to 95% maximum relative humidity, non-condensing
- Storage humidity: 10 to 90% maximum relative humidity, non-condensing Operating altitude: 0 to 3,048m (0 to 10,000ft) maximum
- Storage altitude: 0 to 12,192m (0 to 40,000ft) maximum
- Acoustic Noise:
- less than 50dbA at 35°C
- less than 57dbA at 50°C

- VSP 4000 Safety Agency Approvals
- Global basis for certification: IEC 60950 current edition with all CB member deviations
- CB Scheme Certification with Member Deviations
- EN60950 Europe Safety (CE)
- UL60950 United States of America Safety
- CSA22.2, #60950 Canada Safety
- NOM Mexico Safety
- S-mark Argentine Safety
- Anatel Brazilian Safety
- Electromagnetic Emissions & Immunity
- CISPR22 International EMC Emissions
- CIRPR24 International EMC Immunity

- EN55022:2006 European EMC Emissions (CE)
- EN55024 European EMC Immunity (CE)
- EN61000
- Additional European EMC Specifications (CE)
- FCC Part 15 US EMC Emissions
- ICES-003 Canadian EMC Emissions
- VCCI Japan EMC Emissions
- AN/NZS 3548 Australia/New Zealand EMC Emissions
- CNS13438 Taiwan EMC Emissions
- MIC Korean EMC Certification
- Anatel Brazilian EMC Certification

MTBF Values

- 214,542 to 311,104 hours (24.49 to 35.31 years)

Warranty

- Lifetime Next Business Day advanced hardware replacement
- Lifetime Basic Technical Support
- 90-Day Advanced Technical Support
- Optional Software Release Service also available: GW5300ASG / GW6300ASG

Country of Origin

- Peoples Republic of China

Ordering information

Part Number	Description
EC4800?78-E6*	VSP 4850GTS with 48 10/100/1000 & 2 SFP ports plus 2 SFP+ ports. Inc. Base Software License, 1 Field replaceable 300W AC PSU. NO PC
EC4800?88-E6*	VSP 4850GTS-PWR+ with 48 10/100/1000 802.3at PoE+ & 2 SFP ports plus 2 SFP+ ports. Inc. Base Software License, 1 Field replaceable 1000W AC PSU. NO PC
EC4800078-E6	VSP 4850GTS with 48 10/100/1000 & 2 SFP ports plus 2 SFP+ ports. Inc. Base Software License, 1 Field replaceable 300W DC PSU. NO PC.
EC4810003-3.0	ERS4800 to VSP4000 Conversion kit. Includes VSP USB software module and cover. Licensed for a single system covers Base License features. SPB L2 support.

Redundant power supplies

Part Number	Description
AL1905?08-E5*	300W AC redundant power supply. For use in the ERS 4626GTS, 4850GTS, VSP 4850GTS and WL8180, WL8180-16L wireless controllers. [EUED RoHS 5/6 compliant].
AL1905?21-E6*	STACKABLE 1000W AC POE+ POWER SUPPLY. FOR USE IN 4X00 PWR+,
AL1905005-E5	Redundant 300W DC power supply. For use in the VSP 4850GTS-DC, ERS5698TFD, 5650TD, and 5632FD. (EUED RoHS 5/6 compliant). DC connector included

*Note: The seventh character (?) of the switch order number must be replaced with the proper letter to indicate desired product nationalization. See table for details:

"A" No power cord included

"B" Includes European "Schuko" power cord common in Austria, Belgium, Finland, France, Germany, The Netherlands, Norway, and Sweden

"C" Includes power cord commonly used in the United Kingdom and Ireland

"D" Includes power cord commonly used in Japan

"E" Includes North American power cord

"F" Includes Australian power cord, also commonly

Licenses

Part Number	Description
EC4810010	Advanced License for any VSP4000 - "Routing" (Qty 1) GRT IP Routing including IP-Shortcuts, Inter-ISID-Routing, VRRP, DHCP-Relay, RIP**, OSPF**, BGP**, IPv6**, SMLT**, IP-Shortcuts with Multicast support**
EC4810011	Advanced License for any VSP4000 - "Routing" (Qty 10) GRT IP Routing including IP-Shortcuts, Inter-ISID-Routing, VRRP, DHCP-Relay, RIP**, OSPF**, BGP**, IPv6**, SMLT**, IP-Shortcuts with Multicast support**
EC4810012	Advanced License for any VSP4000 - "Routing" (Qty 25) GRT IP Routing including IP-Shortcuts, Inter-ISID-Routing, VRRP, DHCP-Relay, RIP**, OSPF**, BGP**, IPv6**, SMLT**, IP-Shortcuts with Multicast support**
EC4810015	Premier License for any VSP 4000 - "L3 Virtualization" (Qty 1) IP VRFs, L3 VSNs incl. RIP**, OSPF**, BGP**, Virtualized SPB Multicast**
EC4810016	Premier License for any VSP 4000 - "L3 Virtualization" (Qty 10) IP VRFs, L3 VSNs incl. RIP**, OSPF**, BGP**, Virtualized SPB Multicast**
EC4810017	Premier License for any VSP 4000 - "L3 Virtualization" (Qty 25) IP VRFs, L3 VSNs incl. RIP**, OSPF**, BGP**, Virtualized SPB Multicast**

**Note: Feature support planned for a future release

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
04/13 • UC7264

AVAYA

The Power of We™

Avaya Virtual Services Platform 7000

Future-ready Ethernet switching platform specifically architected for tomorrow's high-performance Data Center

The Avaya VSP 7000, with its unique 'Distributed Top-of-Rack' capability, is the Data Center Top-of-Rack solution that delivers the industry's best application performance; featuring multi-hop low-latency, supporting advanced Fabric-based services, and enabling a one-touch, edge-only provisioning model. Leveraging this application performance advantage, businesses can reduce time-to-decision cycles, and reduce both deployment and operational costs.

The Avaya Virtual Services Platform 7000 is an energy and space-efficient platform built around a next-generation chipset, delivering wire-speed 1/10Gbps Ethernet for today's connectivity requirements. It is also uniquely future-ready with the embedded flexibility to seamlessly support 40 and 100Gbps Ethernet, Storage convergence, and has been built to support network-wide fabric-based virtualized services and lossless environments.

Highlights

- Built around an innovative fifth generation flexible high-performance ASIC chipset with optimized packet buffering and enlarged scaling capabilities
- Versatile cooling options conforming to established data center hot/cold aisle arrangements
- Hot-swappable power supplies, fans, and pluggable expansion
- Wire-speed hardware guaranteeing high throughput and low latency
- Dedicated high-speed ports empower the flexible, low-latency Distributed Top-of-Rack capacity that seamlessly connects multiple units
- Future-ready support for sophisticated virtualization technologies and high-speed interfaces

Ready for today

The Avaya Virtual Services Platform 7000 is ideally suited to deliver today's pressing need for flexible, high-speed Ethernet connectivity in the high-performance data center Top-of-Rack (ToR) role. Additionally it provides a cost-effective 10 Gigabit Ethernet fan-out capability for existing core switch deployments, saving valuable ports and slots. It also has application in the campus distribution layer, delivering flexible connectivity and consolidation options. Featuring a hardened physical architecture of dual, hot-swappable AC or DC power supplies and fan trays, the

The VSP 7000's capabilities have been enhanced with the 10.2 feature release, including:

- Introducing support for the Avaya VENA Fabric Connect capability, our end-to-end network virtualization technology.
- Introducing support for the Avaya VENA Switch Clustering capability, our proven active/active high availability solution
- Enhancing the Avaya VENA Distributed Top-of-Rack capability: additional operational mode that extends scale and flexibility
- Implementing full dynamic Layer 3 Routing: RIP, OSPF, VRRP, and ECMP
- Adding extended reach Fiber FI Cables: 50 & 100m lengths for flexible deployment options
- Plus approximately 40 new or enhanced features

For more information about the various Avaya VENA capabilities, please visit **www.avaya.com/vena**.

VSP 7024XLS with optional 7008XT MDA

VSP 7024XLS rear view - note the four Fabric Interconnect ports (located between the removable power supplies and fans)

Avaya Virtual Services Platform 7000 is an important addition to a network manager's toolkit for creating always-on high-performance solutions.

The first of the Avaya Virtual Services Platform 7000 models to be introduced, the 7024XLS, features fixed SFP+ sockets that support a wide variety of both 1Gbps and 10Gbps Ethernet pluggable transceivers, enabling short- and long-haul copper and fiber connections. In addition the Avaya Virtual Services Platform 7024XLS also features a versatile Media Dependent Adapter slot that delivers support for a range of high-speed expansion options, such as additional 10Gbps ports (SFP+ sockets or 10GBASE-T via RJ45), 40Gbps* and 100Gbps* Ethernet, and Storage convergence connectivity. An innovative design helps ensures that the appropriate portion of the switching fabric's powerful 1,280Gbps performance is dedicated to supporting MDA-based connections, while still providing for wire-speed throughout for all front panel and high-capacity fabric interconnections.

7008XLS Media Dependent Adaptor featuring 8 x 10BASE-X SFP+ sockets

7008XT Media Dependent Adaptor featuring 8 x 10GBASE-T ports

The design of the Avaya Virtual Services Platform 7000 is sympathetic to the evolving requirements for precisely planned environmental implementations and it offers both front-to-back and back-to-front options for the field-replaceable fans tray and power supplies; this gives the flexibility to conform to a variety of hot-aisle/cold-aisle design requirements.

Future-ready for tomorrow

In addition to the versatility afforded by the optional MDA, the Avaya Virtual Services Platform 7000 includes a host of strategic innovations that help ensure it will continue to deliver cutting-edge performance and services throughout an extended life cycle. Among the future-ready features is the advanced fifth generation application-specific integrated circuit (ASIC) chipset that has been optimized for network operations, including:

- Smart packet buffering to deliver lower latencies and efficiently reallocate memory to those ports suffering congestion
- Larger table capacities provide for improved scaling
- Embedded services in support of applications such as IP Flow Information Export (IPFIX)
- Native support for the particular computational functionality crucial in high-performance data center and metro deployment scenarios
- Compatible with a variety of advanced technologies: DCB*, SPB, TRILL*, and the associated OA&M* with the potential to support the likes of VPLS*, MPLS*, TRILL*

In addition to a class-leading switching performance of over 1.2Tbps, the Avaya Virtual Services Platform 7000 has been equipped from the outset with superior CPU and memory resources so that it has the capabilities to execute the sophisticated algorithms necessary for a successful fabric-based infrastructure.

Deployment options and benefits:

- Scenarios:
  - » Top-of-Rack – single or dual Switch/dual-attach Server
  - » Fibre aggregation – Distribution Switch or Data Center 10G fan-out
  - » ATA-over-Ethernet Storage transport
- Scope:
  - » Flexible DC deployment scenarios, either traditional or Fabric-based
  - » Transitional between 1G and full 10G plant, seeking a strategic solution
- Benefits:
  - » 1/10GbE support
  - » Future-ready for key enabling technologies
- Positioning:
  - » Seamlessly transition the highly virtualized server environment from multiple 1GbE connections to one or two 10GbE – increase capacity, reduce latency, reduce complexity
  - » Make a strategic investment in a future-ready platform that matches the mainstream data center evolution requirements and timeline – 40/100GbE, Storage convergence, DCB

» Class-leading performance package – lowest latency, highest switching, most advanced chipset, and unique Fabric Interconnect ports that are built-in and support flexible Distributed Top-of-Rack deployment scenarios

Avaya VENA Distributed Top-of-Rack

The Avaya VENA Stackable Chassis feature is a common thread that runs through our fixed-format Switching products. Built using Avaya's pioneering 'Flexible Advanced Stacking Technology' (FAST), this capability delivers genuine chassis-like levels of resiliency and performance at a fixed format price. This is one of the differentiators that make Avaya genuinely unique to competitive offerings. The experience gained developing successive generations of this technology across multiple product lines has enabled Avaya to now deliver the 'Distributed Top-of-Rack' capability with the VSP 7000 Series. This capability creates a virtual backplane optimizing local traffic flows by always forwarding packets along the shortest path between source and destination, using dedicated high-speed interconnections. This is particularly beneficial in a data center environment creating a flatter, latency-free network that encompasses multiple racks of highly virtualized servers. Available originally as a scale-out implementation of Stack-mode, Distributed Top-of-Rack has now been extended with an additional mode - Fabric mode - and this increases deployment flexibility and operational agility.

Stack-mode: the same proven capability, now faster

High-capacity virtual backplane - it's been a given that performance comes as a natural function of design and price. However, with Stack-mode Distributed Top-of-Rack, Avaya has been able to combine non-blocking internal Switching Fabrics with a high-speed interconnectivity architecture to deliver a truly high performance and cost-effective solution. The Stack-mode implementation is not bound by the limitations and constraints facing rivals (such as token sharing/passing systems, or basic cascading), and has been specifically designed to scale proportionally as new member switches are added; as more ports are added and the requirement for more bandwidth grows. A shortest-path traffic forwarding capability is at the heart of our resilient architecture, ensuring that the shortest, most optimal forwarding path is selectively chosen for each unique data flow. There is none of the unwieldy logical ring or token technology that lesser offerings use, but a star-based distributed forwarding topology that allows traffic to flow either 'upstream' or 'downstream' simultaneously from every Switch in the system, optimizing both performance, resiliency, and resource utilization. The Avaya Virtual Services Platform 7000 features our most advanced implementation to date, delivering a familiar, proven capability that can be used as a scalable building block for an evolving, high-performance Data Center environment.

In-service maintenance and restoration

Virtual hot-swap capability – this crucial serviceability and operability feature helps ensure that any unit failure can be quickly and easily rectified. It's a hot-swap capability pioneered in modular switches, and also made available on Avaya Virtual Services Platform 7000 when deployed in Stack-mode. Enabling immediate like-for-like unit replacement without impacting other functionality and traffic, and without complex engineering intervention, empowers operators to deploy our solutions just as they would a chassis. When a failure occurs the neighboring switches will automatically wrap their fabric connections to help ensure that adjacent racks in the data center are not impacted. The failed unit is simply disconnected from the virtual backplane and a like unit – without any pre-staging of software or configuration – can be inserted, cabled, and powered-up. The Automatic Unit Replacement (AUR) process self-manages any necessary downloads to the new switch and then brings it online; all of this without the need for an engineer to configure or manage the process.

9/11/2013 12:07 PM BidSync Page 1232 of 1712 p. 1275

Distributed power and forwarding

No single point-of-failure – with a chassis solution this has meant N+1 power supplies and even redundant Switching Fabrics. With Distributed Top-of-Rack implemented in Stack-mode it is much the same but without the cost penalty: each unit has an independent Switching Fabric, and each 'Switching Module' has an independent power supply, which means that there is no one single point-of-failure. The Avaya Virtual Services Platform 7000's dual hot-swappable power options further enhances the overall resiliency of the solution. Any individual element failure is equivalent to the failure of a single module within a chassis. Frame forwarding decisions are distributed across the Fabric; when a frame forwarding decision results in the need to forward the frame to another Switch, the intelligent shortest path algorithm determines whether the frame will traverse the virtual backplane.

Automatic software & configuration control, and centralized management

Simplified implementation and management – with a chassis solution it is simply a case of adding a new module, adding configuration, and connecting devices. With the Avaya Virtual Services Platform 7000, it is much the same: simply cable-in a new member, extend the appropriate configuration – all units are managed as a single network entity. The Automatic Unit Replacement (AUR) feature is the process that delivers the Agent Image software, the configuration file, and the Diagnostic Image software to any additional or replacement switch; it self-manages any necessary downloads to the new Switches and then brings it online. All units operate, appear, and are managed as a single network entity, with unique IP and MAC Addresses.

Management functions are performed by a 'Master Unit' (MU), which is selected as part of initializing the virtual backplane. Once normal operations have been established, if the MU (e.g. Unit 1) fails or is rebooted, the next Switch (e.g. Unit 2) will take over as Temporary MU (TMU) and remain as such until either it or the entire system is reset. If Unit 2, as the TMU, fails or is reset, then the TMU status will transfer to the next downstream unit. The important point is that there is always a process for electing the master and a backup to help ensure continuous operation of the combined system.

Fabric-mode: new functionality for next-generation, scale-out fabric networking

The VSP 7000 is an integral component of our Fabric Connect strategy for end-to-end Fabric-enabled networking, and the introduction of Shortest Path Bridging (SPB) enables us to leverage this technology to further innovate by developing the unique Distributed Top-of-Rack capability. With Fabric-mode, multiple VSP 7000s can be very flexibly meshed to uniquely deliver multi-hop, low-latency for deployment scenarios that call for massive scale-out.

Avaya has architected the Fabric-mode Distributed ToR solution to ultimately scale up to many hundreds of Switches within a single domain, with the current implementation supporting up to 200 Switches networked as a single contiguous Fabric. This configuration delivers scale of up to 6,400 wire-speed 10 Gigabit Ethernet ports that are directly supported by a virtual backplane with a capacity of 112Tbps. The agile building block approach is extremely flexible, with virtually no hard-and-fast topology constraints; blocks can be small or large, and individual Switches easily interconnected with extended-reach copper or fiber cabling.

The Fabric-mode of operation differs from the existing Stack-mode option in a number of key areas:

- The Shortest Path Bridging standard is used as the internetworking protocol technology (as opposed to the Avaya FAST protocol) to control the forwarding of traffic between Switches

- The upper scale of a single 'domain' is determined by the number of SPB Nodes supported within software – the current supported number is 200 – as opposed to the 'hard-coded' FAST limit of 8 (per system)
- The virtual backplane capacity increases from the Stack-mode limit of 5.12Tbps, and is up to 112Tbps (based on 200 Switches)
- Like-for-like Switch replacement, i.e. how replacement units are introduced and how image and configuration files are deployed, is a manual process in Fabric-mode, as opposed to the automated functionality delivered by Stack-mode Auto Unit Replacement
- The rules governing how Fabric Interconnect ports are cabled changes from the strict requirements of Stack-mode to 'free' with Fabric-mode, promoting very flexible topologies
- The ability to support active-active, dual- or multi-homed access is also supported for Fabric-mode, although currently limited to MLT, whereas Stack-mode supports MLT, DMLT, and now also SMLT
- Switches are individually managed in Fabric-mode as opposed to the group management approach with Stack-mode
- Interoperability between Fabric-mode and the Avaya VENA Switch Clustering capability is not currently supported – while this is available with Stack-mode – although this is a future deliverable
- The configuration effort required to deploy both modes is relatively similar with the very low configuration burden being a feature of both
- And finally, Fabric-mode requires the Premier Software License while Stack-mode is available as part of the Base Software License

As can be seen, the expansion of the Distributed Top-of-Rack modes of operation provides powerful additional capabilities and deployment flexibility. Some scenarios may call for Fabric-mode's higher interconnection scale or more flexible cabling approach while others might take advantage of Stack-mode's additional active-active options or streamlined management.

Avaya VENA Switch Clustering

The Avaya VENA Switch Clustering feature is built using the Split Multi-Link Trunking technology that is unique to our products, yet is fully interoperable with third party switches, servers, appliances, and routers. What this delivers is a series of benefits that provide real value; while it may be possible to simulate certain individual elements, there is no competitive offering that can rival the combined capabilities, particularly in terms of simplicity and efficiency.

Delivering end-to-end application availability

Interoperable solution that extends beyond switches to servers – this means that the high-availability is not limited to only the switching network (the switches themselves and their direct links), but to the total network; importantly also extended to attached servers, appliances, and WAN routers, etc. All competing offers are based on interaction within the switch domain, and crucially do not extend to the application hosts themselves. Most rival offerings are based around variations of the Spanning Tree Protocol (STP); however this is limited to the actual switches and is not supported by other devices (servers, etc). By excluding servers from the active resiliency technology, these solutions cannot extend availability to the applications themselves. Avaya VENA Switch Clustering is independent of STP and extends to support any device that utilizes Link Aggregation, a technology that is both basic and ubiquitous. Devices that attach to the Switch Cluster create a virtual connection using multiple physical links, this provides resiliency together with additional capacity.

Solutions that scale enterprise-wide

Cost-effective solutions for every network size, not limited to top-of-the-range product – business processes that demand high-availability are typically also deployed company-wide; so it is imperative to deliver consistent levels of resiliency across the entire network. Avaya is uniquely positioned to offer the same capability, using the same technology, in a broad range of platforms that scale in both price and performance matching various requirements across the network. This enables the consistent delivery of a network that is itself constantly delivering end-to-end application availability, regardless of location or size.

Simplified solutions

A capability that is simple to deploy and one that does not require complex and/or expensive products – the various capabilities and benefits that Switch Clustering provides are delivered without complexity. There is no need for expensive hardware or software, or for complex configuration or on-going maintenance. This helps ensure that the business benefits are not 'purchased at any price'; indeed Switch Clustering uniquely combines simplicity with cost-effectiveness.

* Indicates a roadmap feature that is forecast to be delivered in a future software release.

While some of the individual capabilities can be simulated using other techniques and/or a myriad of additional products, that approach can only add cost and complexity.

As an example, Switch Clustering delivers user pre-session load-sharing across all uplinks from the access switch to the core; this capability is automatically enabled without the need for any additional hardware, software, or configuration. To attempt to replicate this level of capability in a STP-based network, it would need to have multiple VLANs with MSTP/RSTPconfigured, a Layer 3-enabled switch with routing and ECMP configured, and even then this solution would be limited to pre-VLAN load-sharing only (not pre-session).

Sub-second failover & recovery

Delivering the necessary availability and also facilitating in-service maintenance and optimized performance – Switch Clustering is probably best known for delivering sub-second failover and recovery. While this remains extremely important, and never more important, it is not necessarily a feature that remains unique. Enhancements to STP – namely rapid reconfiguration – can be aggressively configured to deliver similar levels of failover performance. However all flavors of STP remain tied to the concept of detecting and acting upon changes to the network topology. This makes a network extremely sensitive to the reliability and availability of particular devices (root bridges, etc). Avaya's Switch Clustering is built around the concept of mirrored devices and virtualized capabilities, so that an entire switch can be removed (through failure or for emergence or routine maintenance) without any loss of overall application availability.

What Avaya continues to deliver in this area is a degree of network recovery which also facilitates in-service maintenance. The deterministic nature of Switch Clustering empowers network operators to compartmentalize the network, making essential services even more resilient, and allowing for individual failures to be repaired in real time, without service restoration work impacting on collateral components or applications.

Virtualization and network fabric infrastructure

Most enterprises are looking at ways to reduce cost and improve time-to-service, and most are looking for ways to improve the operational efficiency of the Data Center. Wouldn't it be nice if you could deploy a new application across multiple data centers in an instant? Wouldn't it be nice if you could give IT the ability to simply say "yes" when there is a new application or service that needs to be deployed on the network? Server virtualization within the data center is now taken for granted, with some declaring that 'Cloud Computing' will become a reality for most enterprises, and that applications, information, and compute resources will become simple commodities. Experience has proved one thing; the data center of the future cannot be built on the technology of the past. General-purpose products, outmoded techniques, and legacy designs cannot be re-packaged as 'data center-ready'. The industry will take the best and leave the rest. Ethernet is readily available, cost-effective, extensible, and – as the 40 and 100 Gigabit developments prove – scalable, however many existing deployment methodologies are no longer an option.

The Avaya Virtual Enterprise Network Architecture is an over-arching strategy designed to improve network uptime by delivering the infrastructure that creates the private cloud and virtually eliminates user-error network outages. We are reducing time-to-service with simple one-touch provisioning and we are improving data center efficiency with a tight integration between applications and network virtualization. We are reliably connecting users and content, with independent testing commissioned by Avaya reinforcing the fact that we consistently deliver some of best total cost of ownership in the industry. With an Avaya data network, you will get more value for every dollar spent by IT.

Avaya VENA Fabric Connect

The Avaya VENA Fabric Connect capability, based on an enhanced implementation of the Shortest Path Bridging (SPB) technology, offers

the ability to create a simplified network that can dynamically virtualize elements to empower efficient provisioning and utilization of resources, thus reducing the strain on the network and personnel. Combined with the Avaya Virtualization Provisioning Service tool, the Avaya VENA Fabric Connect capability can, for example, fully synchronize the provisioning of the networking requirements of workload mobility within and between data centers, dynamically and seamlessly moving or extending virtualized computing resources, without the provisioning complexity associated with rival solutions. Based on SPB, an IEEE 802.1aq draft standard augmented with Avaya enhancements that deliver specific enterprise optimization, Fabric Connect offers a robust and resilient alternative to today's existing offerings and it delivers innovative services and solutions while maintaining Ethernet's key value propositions of simplicity and cost-effectiveness. Fabric Connect delivers new capabilities in the crucial areas of simplicity, scalability, performance, reliability, and service orchestration and abstraction.

Creating a fault-tolerant, powerful, and self-aware end-to-end fabric, this transparent network features a design where service provisioning occurs only at the perimeter. The advantage is immediate and pronounced; administrative effort is reduced, errors are avoided, and time-to-service is vastly enhanced. The beauty of the underlying SPB technology is that it masks devices, links, and protocols and delivering what is logically an extended Ethernet LAN that provides connectivity for multiple end-points. That's the simple concept and SPB achieves this in an interesting and quite unique way. It leverages a dynamic link-state routing protocol called Intermediate System-to-Intermediate System (IS-IS) and extends it to share topology, reachability, and device information between every node in the SPB domain. With nodes holding their own self-determined view of the network, including the optimal path to any destination, a fully distributed and dynamically maintained solution is created.

Avaya Virtualization Provisioning Service

Avaya Virtualization Provisioning Service is a virtualization management solution that delivers automation, visibility & reporting that spans the network infrastructure, servers, storage and applications, across both physical and virtual environments. Today's data center networks are inefficient in dealing with server virtualization. From the time a Virtual Machine (VM) is created to the time it is activated, moved around or deactivated, the network has no visibility into the virtual machine lifecycle. There are also few tools, if any, when it comes to troubleshooting and managing VMs in the network. Due to the ability of VMs to dynamically move from server to server, provisioning the network for VM security and application performance has proven to be a very serious networking challenge.

An important milestone in the evolution to a virtualized data center is making the network very "efficient" when it comes to managing, troubleshooting, provisioning and securing virtual machines in the network. This includes bringing network level insight and visibility to the virtual machine lifecycle, applying the appropriate network and port level configurations at an individual VM level, dynamically tracking VMs as they move across the data center and enforcing the network attributes of the VMs wherever they migrate in the data center. Avaya's Virtualization Provisioning Service (VPS) is a software application service that acts as glue between VMware's vCenter and Avaya's Configuration and Orchestration Manager. Avaya Avaya Virtualization Provisioning Service provides a relay mechanism to bridge the gap of complete end-to-end provisioning of servers and network devices in a fully virtualized data center environment. It learns dynamic virtualized server topologies and updates Avaya devices to react to changes in server topologies. It provisions connectivity services (VLANs) on switch ports based on the actual network connectivity and provisions QoS filter, ACL, SPB I-SID & port profiles (templates) – based on preconfigured rules – to switch ports.

Provisioning changes can be applied automatically based on a set of predefined rules which are checked and applied to network ports dynamically if the rule applies. They can also be applied manually where there is an alert to the network administrator that there is a change happening within the server environment and then a guided workflow is triggered that would allow the administrator to apply the manual network configuration change. These changes to the network, which can be done in real-time, are critical in helping to ensure the applications function as expected and that moving the VM doesn't negatively impact the end user experience for that particular application,

An area of differentiation for Avaya Virtualization Provisioning Service is its integration with the Avaya Identity Engines portfolio to deliver

intelligent rule-based access control for individual VMs. This gives network administrators the ability to prevent individuals from moving certain VMs in the middle of the day and helps ensure that specific networks are protected so that only approved VM's can be connected to them.

Avaya Virtualization Provisioning Service will also provide a wealth of reporting options so that network operators have a clear view of the VM lifecycle and activity (activations, deactivations, changes), it will provide details on what network changes were completed based on user, device, time, type of access etc. Network operators can also customize the alerts that they receive based on the device type, port groups or even server type.

This comprehensive solution truly brings the virtualized applications together with the virtualized network and helps ensure that the network is able to constantly adapt to changes in the computing environment. VM mobility is then transparent to the end user utilizing those applications.

Management

The Avaya Virtual Services Platform 7000 can be managed by a variety of management tools, creating a flexible operational environment based on business requirements. These include: standardized Command Line Interface (CLI), Web-based Enterprise Device Manager (EDM), SNMP-based management (SNMPv1, v2 & v3), and the evolving Unified Management framework for comprehensive, centralized, and multi-facetted network management. It is based on common services – authentication and access control, audit, etc – and then a number of integrated AJAX-based plug-in applets that deliver seamless task-specific capabilities all with a consistent look and feel: Configuration & Orchestration Management; Visualization, Performance and Fault Management; and IP Flow Manager.

Provision wizards and other labor-saving tools help ensure faster service activation and more consistent approach to configuration; this has the added benefit of reducing human-error as templates are pre-populated with best-practice recommendations or mandatory values. The entire framework is context-based which enables a faster, more accurate and highly-intelligent approach to delivering both device-centric and network-wide management services.

Lifetime warranty

Avaya includes Industry-leading warranty services for the portfolio of stackable switches, including the new Avaya Virtual Services Platform 7000. We provide complimentary next-business-day shipment of failed units for the full life of the product; next-business-day shipping to replace failed hardware worldwide. Avaya also offers complimentary basic technical support: Level 1 the supported lifecycle of the product and up to Level 3 for the first 90 days after purchase; this includes support for the shipped software version, with an optional Software Release Service available to provide access to new feature releases. As per industry norm for hardware, 'Lifetime' is defined as the production lifecycle phase, plus 5 years post-discontinuation.

Summary

The Avaya Virtual Services Platform 7000 is purpose-built to support the dynamic data center and high-density 10 Gigabit Ethernet top-of-rack deployments of today. It alleviates infrastructure complexity and reduces power consumption with a truly scalable and strategic architecture; it is designed to be the high-performance top-of-rack platform for the next decade.

Supporting mission-critical applications requires 24x365 always-on infrastructure, and the Avaya Virtual Services Platform 7000 delivers against this challenge. It is a highly strategic product that is fit-for-purpose for today's connectivity requirements and future-ready for the evolving and emerging application-driven needs of tomorrow.

The VSP 7000 brings unique differentiation to the ToR role: with a flexible, non- blocking architecture, including wire-speed server access connections and Fabric Interconnect ports. The VSP 7000 is purpose-built to support today's dynamic Data Center operations and high-density, low-latency 10 Gigabit Ethernet Top-of-Rack deployments. It alleviates infrastructure complexity and reduces power consumption with a truly scalable and strategic architecture; it is designed to deliver a high-performance Distributed Top-of-Rack solution that fully optimizes next-generation application virtualization investments.

Ordering Information	
Part Code	Product Description
AL700001F-E6	Avaya Virtual Services Platform 7024XLS 24-port 1/10 Gigabit Ethernet SFP+ Switch (Front-to-Back Cooling)
AL700001B-E6	Avaya Virtual Services Platform 7024XLS 24-port 1/10 Gigabit Ethernet SFP+ Switch (Back-to-Front Cooling)
AL7000MS1-E6	7008XLS 8-port 1/10 Gigabit Ethernet SFP+ Media Dependent Adapter
AL7000MT1-E6	7008XT 8-port 10GBASE-T Media Dependent Adapter
AL7000?0F-E6	Avaya Virtual Services Platform 7000 AC Power Supply (Front-to-Back Cooling)
AL7000?0B-E6	Avaya Virtual Services Platform 7000 AC Power Supply (Back-to-Front Cooling)
AL7000A1F-E6	Avaya Virtual Services Platform 7000 DC Power Supply (Front-to-Back Cooling)
AL7000A1B-E6	Avaya Virtual Services Platform 7000 DC Power Supply (Back-to-Front Cooling)
AL7000FTB-E6	Spare Fan for Avaya Virtual Services Platform 7000 (Front-to-Back Cooling)
AL7000BTF-E6	Spare Fan for Avaya Virtual Services Platform 7000 (Back-to-Front Cooling)
AL7018001-E6	Fabric Interconnect Cable (Copper) - 0.6m
AL7018002-E6	Fabric Interconnect Cable (Copper) - 1.0m
AL7018003-E6	Fabric Interconnect Cable (Copper) - 3.0m
AL7018004-E6	Fabric Interconnect Cable (Copper) - 5.0m
AL7018005-E6	Fabric Interconnect Cable (Fiber) - 10.0m (with fixed Tranceiver ends)
AL7018006-E6	Fabric Interconnect Fiber Transceiver for use with 50m & 100m Fabric Interconnect Cables (Fiber) – 2 x Transceivers required per Cable
AL7018007-E6	Fabric Interconnect Cable (Fiber) - 50m – Requires 2 x Fabric Interconnect Fiber Transceivers (AL7018006-E6)
AL7018008-E6	Fabric Interconnect Cable (Fiber) - 100m – Requires 2 x Fabric Interconnect Fiber Transceivers (AL7018006-E6)
AL7011001-E6	Avaya Virtual Services Platform 7000 4 Post Server Rack Mount Kit
AL7016001	VSP 7000 Advanced Software License for 1 Switch, activating: Switch Clustering, OSPF, VRRP, & ECMP
AL7016002	VSP 7000 Advanced Software Licenses for 2 Switches, activating: Switch Clustering, OSPF, VRRP, & ECMP
AL7016010	VSP 7000 Advanced Software Licenses for 10 Switches, activating: Switch Clustering, OSPF, VRRP, & ECMP
AL7017001	SP 7000 Premier Software License for 1 Switch, activating: Advanced features, plus Fabric Connect
AL7017002	VSP 7000 Premier Software Licenses for 2 Switches, activating: Advanced features, plus Fabric Connect
AL7017010	VSP 7000 Premier Software Licenses for 10 Switches, activating: Advanced features, plus Fabric Connect
A single Software License can be applied to a standalone Switch, or to a complete system when multiple Switches are grouped as per Stack-mode Distributed ToR/Stackable Chassis.	
Where applicable the seventh character (?) of the Order Code is replaced to indicate the required product nationalization:	
A	No Power Cord option
B	Includes European “Schuko” Power Cord option, common in Austria, Belgium, Finland, France, Germany, Netherlands, Norway and Sweden
C	Includes Power Cord used in UK and Ireland
D	Includes Power Cord used in Japan
E	Includes Power Cord used in North America
F	Includes Power Cord used in Australia, New Zealand and People’s Republic of China

Specifications

General and Performance

- Switch Fabric Architecture: 1,280Gbps Full-Duplex
- Frame forwarding rate: 960Mpps per Switch
- Typical Latency: ~500nsec
- Typical Jitter: 12 – 14Qsec
- Frame length: 64 – 1518 Bytes (Untagged), 64 – 1522 bytes (802.1Q Tagged)
- Jumbo Frame support: up to 9,000 Bytes (802.1Q Tagged)
- Multi-Link Trunks: up to 32 Groups, with 8 Links per Group
- VLANs: up to 1,024 Port/ Protocol/802.1Q-based
- Multiple Spanning Tree Groups: 8
- MAC Address: up to 128k
- DHCP Relay Entries: up to 256
- ARP Entries: up to 4k
- IP Interfaces: up to 256
- IPv4 Routing: RIP, OSPF
- IPv4 Routes: up to 4k
- OSPF Areas: up to 4
- OSPF Adjacencies: up to 64
- ECMP Paths: up to 4
- VRRP Instances: up to 256
- Avaya VENA Distributed Top-of-Rack, supporting:
  - Stack-mode of up to 8 units leveraging 5.12Tbps of virtual backplane capacity

- Fabric-mode of up to 200 units leveraging 112Tbps of virtual backplane capacity
- Avaya VENA Switch Clustering, supporting:
  - Standalone, Stacked
  - Triangle configuration, Square configuration
  - 31 MLT Links
  - 128 SLT Links
  - VRRP Backup Master
  - SLPP, SLPP Guard
- Avaya VENA Fabric Connect, supporting
  - Standalone mode, Stacked mode*
  - L2 Virtual Service Networks, L2 VSNs with Multicast*, IP Shortcut Routing*
  - 32 Nodes
  - 24 IS-IS Adjacencies
  - 500 Customer VLANs
  - 1k Service Identifiers

Pluggable Interfaces

- 10GBASE-SR up to 300m reach over MMF (Duplex LC)
- 10GBASE-LRM up to 220m over FDDI-grade MMF (Duplex LC)
- 10GBASE-LR/LW up to 10km reach over SMF (Duplex LC)
- 10GBASE-ER/EW up to 40km reach over SMF (Duplex LC)
- 1000BASE-T up to 100m over CAT5E or better UTP Cable (RJ-45)
- 1000BASE-SX up to 550m reach on MMF (Duplex LC)
- 1000BASE-SX up to 550m reach on MMF (Duplex MTRJ)
- 1000-BASE-LX up to 550m reach on MMF, and up to 10 km on SMF (Duplex LC)
- 1000BASE-XD CDWM up to 40 km reach on SMF (Duplex LC)
- 1000BASE-ZX CDWM up to 70 km reach on SMF (Duplex LC)
- 1000BASE-EX up to 120 km reach on SMF (Duplex LC)
- 1000BASE-BX up to 10 and 40 km reach variants on SMF (LC)

IEEE and IETF Standards Compliance

- IEEE 802.1D Spanning Tree Protocol
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1p Prioritizing
- IEEE 802.1s Multiple Spanning Tree
- IEEE 802.1w Rapid Reconfiguration of Spanning Tree
- IEEE 802.1AB Link Layer Discovery Protocol
- IEEE 802.1AX/802.3ad Link Aggregation Control Protocol
- IEEE 802.1ag Connectivity Fault Management, ITU-T Y.1731 Performance Management*
- IEEE 802.1aq Shortest Path Bridging*
- IEEE 802.1Qau Congestion Notification*
- IEEE 802.1Qaz Enhanced Transmission Selection*
- IEEE 802.1Qbb Priority-based Flow Control*
- IEEE 802.3 Ethernet
- IEEE 802.3u Fast Ethernet
- IEEE 802.3x Flow Control
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.3ab Gigabit Ethernet over Copper
- RFC 768 UDP
- RFC 783 TFTP
- RFC 791/950 IP
- RFC 792 ICMP
- RFC 793 TCP
- RFC 826 ARP
- RFC 854 Telnet
- RFC 894 IP over Ethernet
- RFC 951 BootP
- RFC 1085 RIPv1
- RFC 1112 IGMPv1
- RFC 1157 SNMP
- RFC 1213 MIB-II
- RFC 1215 SNMP Traps Definition
- RFC 1271/2819 RMON
- RFC 1350 TFTP
- RFC 1361/1769 SNTP
- RFC 1493 Bridge MIB
- RFC 1573/2863 Interface MIB
- RFC 1583/2328 OSPFv2
- RFC 1643/2665 Ethernet MIB
- RFC 1757 RMON
- RFC 1850 OSPF v2 MIB
- RFC 1905/3416 SNMP
- RFC 1906/3417 SNMP Transport Mappings
- RFC 1907/3418 SNMP MIB
- RFC 1945 HTTP v1.0
- RFC 1981 Path MTU Discovery for IPv6
- RFC 2011 SNMPv2 MIB for IP
- RFC 2012 SNMPv2 MIB for TCP
- RFC 2013 SNMPv2 MIB for UDP
- RFC 2131 DHCP
- RFC 2138/2865/3576 RADIUS
- RFC 2236 IGMPv2
- RFC 2362 PIM-SM*
- RFC 2460 Internet Protocol Version 6
- RFC 2461 Neighbor Discovery for IPv6

- RFC 2462 Auto-Configuration for Link Local Addresses
- RFC 2474 DiffServ
- RFC 2475 DiffServ
- RFC 2674 Q-BRIDGE-MIB
- RFC 2737 Entity MIBv2
- RFC 2819 RMON MIB
- RFC 2866 RADIUS Accounting
- RFC 3046 DHCP Relay Agent Information Option
- RFC 3376 IGMPv3
- RFC 3410 SNMPv3
- RFC 3411 SNMP Frameworks
- RFC 3412 SNMP Message Processing
- RFC 3413 SNMPv3 Applications
- RFC 3414 SNMPv3 USM
- RFC 3415 SNMPv3 VACM
- RFC 3584 Coexistence of SNMPv1/v2/v3
- RFC 3768 VRRP
- RFC 3917 IP Flow Information Export
- RFC 3954 NetFlow Services Export v9
- RFC 3993 Subscriber-ID Sub-option for DHCP*
- RFC 4007 Scoped Address Architecture
- RFC 4022 TCP MIB
- RFC 4113 UDP MIB
- RFC 4293 IPv6 MIB
- RFC 4432 SSH RSA
- RFC 4443 ICMPv6

Weights and Dimensions

- Height: 4.37cm, 1RU
- Width: 43.82cm
- Depth: 60.0cm
- Weight: 9kg for the base unit, and 12.2kg with Power Supplies, Fan Trays, and MDA installed

Power Specifications

- Input Voltage: 100-240 VAC
- Input Current
  - 1.5-2.0A @ 100-120 VAC
  - 0.75-1.0A @ 200-240 VAC
- Power Consumption (without MDA):180 W
- Power Consumption with MDA:200 W
- Power Consumption (theoretical maximum): 400W
- Thermal Rating (typical): 615-685 BTU/h

Environmental Specifications

- Operating temperature: 0 – 50°C
- Storage temperature: -40 to 85°C
- Operating humidity: 5 – 95% maximum relative humidity, non-condensing
- Storage humidity: 10 to 90% maximum relative humidity, non-condensing
- Operating altitude: 0 to 3,692 maximum
- Storage altitude: 0 to 12,192 maximum
- Acoustic Noise: less than 45 – 55dB at 35°C

RoHS Compliance

- Avaya Virtual Services Platform 7000 products, switches and field-replaceable components, are free of all six of the substances named in the European Union's directive on the restriction of the use of hazardous substances in electrical and electronic equipment.

Safety Agency Approvals

- Global basis for certification: EN 60950 current edition with CB national member deviations
- Mexico: complies with NOM

Electromagnetic Emissions & Immunity

- Global basis for certification: CISPR 22 Class A & CISPR 24, IEC 60950 with CB member national deviations
- US: complies with FCC CFR47 Part 15
- Canada: complies with ICES Class A
- Europe: complies with EN 55022 Class A; EN 55024; EN 300386 V1.3.3 Class A
- European Union & EFTA: complies with EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3
- Japan/Nippon: complies with VCCI
- Taiwan: complies with BSMI CNS 13428 & 14336, Class A
- Korea: complies with MIC Class A

Redundant Power

- 2 field-replaceable hot-swappable AC or DC internal Power Supplies

MTBF Values

- Avaya Virtual Services Platform 7000 base unit: 241,000 hours

Warranty

- Lifetime Next Business Day hardware replacement
- Lifetime Basic Technical Support
- 90-Day Advanced Technical Support
- Optional Software Release Service also available: GW5300ASG / GW6300ASG

Country of Origin

- China (PRC)

---

* Indicates a roadmap feature that is forecast to be delivered in a future software release.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
01/13 • LB5289-02

AVAYA

The Power of We™

Avaya Virtual Services Platform 9000

An agile, streamlined, next-generation Ethernet Switching solution that delivers high-performance, high-capacity, and high-availability for mission-critical data centers and very large campus core networks.

The VSP 9000 3.3 operating system software introduces support for the field-proven Avaya Virtual Enterprise Network Architecture (VENA) Enterprise Fabric capability, featuring a number of highly versatile connectivity models:

- **Layer 2 Virtual Service Networks**
- **Layer 3 Virtual Service Networks**
- **Inter-VSN Routing**
- **IP Shortcut Routing**

These service types are delivered with a variety of Avaya and standards-based L2 and L3 high-availability options, ensuring robust end-to-end access.

The progressive evolution of the data center has created a new networking environment, no longer simply an extension of the enterprise campus; the data center has developed into an autonomous network with specific requirements and challenges. The Virtual Service Platform 9000 is the future-ready and future-proof solution to deliver the sought-after combination of performance, reliability, and scalability.

With mission-critical application demands increasing networks are required to ensure uninterrupted business operations and a quality user experience. Most networks are now called upon to provide 24x365 access, helping to drive business agility, accelerate time-to-service, respond to the needs of new applications and increase efficiency – all while IT budgets are being pressurized to deliver more and more efficiency.

Individual business imperatives will continue to evolve and so too must the network; cost-effectively adapting – forklift upgrades cause excessive disruption. The need is for a platform that is flexible and versatile, easily accommodates both growth and change – a platform that delivers support for new applications ahead of the pack. Equally important, that platform must be space and energy efficient. The right communications solution is critical to your success; the Avaya Virtual Services Platform 9000 is that solution.

The Virtual Services Platform 9000 (VSP 9000) is a next-generation solution for mission-critical data centers and campus core networks, designed for the needs of large enterprises, and other such as multi-tenant operators. The VSP 9000 rises to meet customer requirements for a future-proof, ultra-reliable network that easily and cost-effectively facilitates services integration; it provides a less complex, more agile virtual network infrastructure. It simplifies the network and helps reduce the cost of deploying new services; the VSP 9000 enables the building of a dynamic data center, helping to deliver 24x365 uninterrupted access to enterprise applications and services.

The VSP 9000 delivers industry-leading performance and scalability, with immediate support for very high-density 1 and 10 Gigabit Ethernet, in addition to being future-ready for the emerging 40 and 100 Gigabit Ethernet standards. The fully scalable architecture helps ensure that network capacity seamlessly scales in line with performance requirements, without complex or expensive re-engineering.

The VSP 9000 transforms the network and, as a result, the business, providing an ultra-reliable foundation for services such as communications-enabled Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) business processes, and unified communications. It not only simplifies the core network architecture but also offers enhanced flexibility and scalability to enable faster time-to-service in both data center and very large campus core deployment scenarios. By enabling the virtualized compute infrastructure to be more mobile, predictable, and available, the VSP 9000 fully delivers on the promise of centralizing services, all without compromising the high availability, performance, and security that's required in an enterprise environment.

Who has the VSP 9000 been developed for?

The Avaya VSP 9000 has been specifically developed for organizations that are planning new highly-virtualized data center deployments, and those that wish to deploy future-ready campus core solutions that support seamless IPv4, IPv6, and end-to-end network virtualization and service integration. The Avaya VSP 9000 is ideally suited for those organizations that:

- Require scalable, high-density 10GbE today, and with continued growth will need to position for future 40/100GbE
- Are suffering from performance limitations that result in poor application responsiveness
- Demand best-in-class resiliency
- Need to simplify network infrastructure operations in a highly virtualized environment
- Are required to deliver virtual services for multiple customers or user groups in a cloud computing environment
- Seek to maximize their investment in server virtualization
- Desire a lossless-ready solution should storage convergence become their preferred option

The VSP 9000 is for organizations that need to stabilize IT costs and maximize the cost-effective use of their infrastructures. It is for companies that are virtualizing to increase the efficient and flexible use of servers and appliances, and want to reduce maintenance costs. It is for those who are running out of space in the data center and are experiencing exponential increases in power and cooling costs. It is for organizations that want to simplify, save, and equip their networks for the future.

The key benefits of the VSP 9000

- An ultra-reliable platform, helping to ensure uninterrupted business operations
- Delivers very high-density 1 and 10 Gigabit Ethernet today, meeting immediate performance and reliability needs
- A highly flexible platform, offering an upgradable switching engine and an adaptable architecture that scales up to 27 terabits per second
- Is future-ready for a seamless evolution to 40 and 100 Gigabit Ethernet
- Supports a sophisticated suite for device and network virtualization capabilities; delivering versatile, end-to-end, L2 and L3 services
- Helps to lower operating costs, by reducing management complexity and simplifying the architecture

The VSP 9000 is one of the most robust products on the market for the demanding role of high-end Core Switch, and because it is so robust, it can deliver more uptime and can empower more dependable application access.

Meeting the need

The VSP 9000 is specifically designed to support new and emerging requirements. Virtual application LANs enable applications hosted on virtual machines to move – on demand – from one location to another in a completely seamless fashion, and application-specific deep-packet filters help to ensure that only relevant traffic enters the virtual application LAN, delivering application security.

The networking industry is a perpetual work-in-progress, an 'unfinished masterpiece', and the number of standards and recommendations now runs into the thousands. Equipment that is based on a traditional ASIC architecture is limited in that these are set at a certain point in this history and cannot easily adapt to future change. Typically this means that newer features and functionality are supported only in hardware and require additional software processing. The switching architecture of the VSP 9000 is uniquely based on Network Processing Units (NPU) rather than the ASIC technology typically found in rival products. NPUs are scalable computational arrays specifically designed for network-related functions such as efficient examination and manipulation of packet headers, and include the ability for deep packet inspection and manipulation. The Avaya specialized high-performance NPU is known as the Route Switch Processor (RSP) and being an in-house development, Avaya has direct control over functional development. It delivers fast-path protection through its ability to support in-life firmware upgrades and provides 10Gbps line rate switching and routing capabilities regardless of Standards evolution.

The VSP 9000 leverages the RSP to deliver faster implementations of new, performance-optimized functionalities, thus meeting the needs of evolving applications — often directly driven by the evolution of Standards — without ASIC re-spins and major hardware changes.

How the VSP 9000 delivers

The VSP 9000 is designed to meet three critical network requirements, and the VSP 9000 has the power to meet these requirements today, and to also scale as the business evolves and grows – an agility that delivers best-in-class longevity and investment protection.

It's the foundation for the future

The VSP 9000 supports an initial 240 port of 10G Ethernet in a compact 14RU chassis – allowing three chassis per rack – and is based on a switching architecture that is designed to scale up to 27Tbps. Initial IPv4 forwarding rate is 1,050Mpps per system. This architecture, combined with a lossless crossbar fabric, allows for seamless evolution to the emerging 40G and 100G Ethernet standards for future services integration, and the delivery of Converged Enhanced Ethernet functionality in support of the IEEE's data center bridging initiative. Leveraging the fully programmable RSP provides the VSP 9000 with the flexibility to incorporate future standards and protocol developments without a forklift upgrade, thus helping to provide optimal performance and investment protection.

It's carrier-class reliable

The Avaya VSP 9000 builds upon our solid foundation of always-on technology to deliver maximum availability and continuity of business operations with zero service interruption. The VSP 9000 Operating System is based on a carrier-class real-time Linux operating system – bringing to the enterprise high-availability technologies that have been field-proven by a huge, global installed-base of Service Providers. Avaya Networking Solutions

have a deep heritage of carrier-grade resiliency with our pioneering Switch Clustering technology utilizing split multi-link trunking and routed split multi-link trunking. The VSP 9000 takes this to the next level with a set of explicit, hardware-assist features which enhance robustness, scalability, predictability for control plane and fast-path protection. Reactions to failures occur in milliseconds, optimizing network operations, and instantaneous all-port re-routing means dramatically reduced packet loss. Innovative "in-service control plane integrity check" and "rapid failure detection and recovery of data path" provide system-level health check and self-healing capabilities. Hitless patching enables one software module to be patched without the requirement to reload the complete system image, thereby minimizing maintenance down time. And redundant control processor and switch fabric modules help ensure the VSP 9000 handles business critical information with utmost reliability.

It's your gateway to simplified and agile virtual networking services

This platform enables future services integration that can help consolidate and simplify network deployments. Avaya has pioneered a faster, simpler way to provide agile virtual network services. The VSP 9000 advances this innovation, offering layer 2 and 3 VPN services and "Virtual Service Networks"; leveraging an enhanced implementation of the IEEE's open and interoperable Shortest Path Bridging and the Avaya Virtualization Provisioning Service to deliver solutions that far surpass rival offerings.

The introduction of virtualization has fundamentally changed how compute, network and storage resources are used and managed. From fixed sets of resources within physical constraints, we've now moved to virtual machines that can be created, moved, and removed on demand, and whose resource parameters can be changed dynamically. There is often a requirement for virtual machines to be moved from one physical server to another over disparate geographies.

As multi-core processing architectures and virtualization trends take hold, new possibilities have emerged in how applications can be written. Newer, more powerful distributed applications are being developed and older applications are being retrofitted into the new service-oriented architectures. An optimized network must support the unprecedented agility of this virtualized compute environment.

Virtualization Capabilities

The VSP 9000's lossless architecture, along with its 27Tbps switching capability and ultra-reliability, leverages device and network virtualization to empower services integration, simplifying how enterprise data centers and core networks are architected.

Device Virtualization

The Avaya VRF-Lite capability allows the use of the single hardware platform to support multiple Layer 3 routing domains, each supporting unique customers or user groups.

In configuring the switch to have multiple routing instances, more sophisticated connections are made possible and overlapping IP address spaces are supported. The system can be configured to provide inter-VRF forwarding capabilities to allow access to common resources without incurring additional capital or operational expenses.

Combining VRF-Lite with other technologies provides a seamless connectivity environment for virtual users, connecting from anywhere in the enterprise network or branch offices without complex set-up or configuration.

Network Virtualization

The Avaya VENA Enterprise Fabric capability is designed as an enhanced and extended implementation of the Shortest Path Bridging (SPB) standard. It offers the ability to create a simplified network layer that dynamically virtualizes individual elements to fully and efficiently utilize network and computing resources, thus reducing the strain on networking resources and personnel. The Enterprise Fabric provides a number of `Virtual Service Network' types:

- L2 VSNs operate at Layer 2, extending VLANs across the Fabric
- L3 VSNs operate at Layer 3, interconnecting and extending VRFs
- Inter-VSN Routing provides the ability to natively routing between VSNs, and
- IP Shortcut Routing enables direct L3 connectivity between individual end-points

High availability is another unique value that Avaya brings to the fabric networking challenge; leveraging our tried and tested capabilities we are able to provide comprehensive high availability (HA) solutions at both Layer 2 and Layer 3. The Avaya VENA Switch Cluster capability empowers dual/multi-path fabric access options, with further optimization available with the Distributed vRouting feature, and this helps ensure that L3 gateway placement is fully flexible and delivers maximum efficiency.

Virtualization Provisioning Service

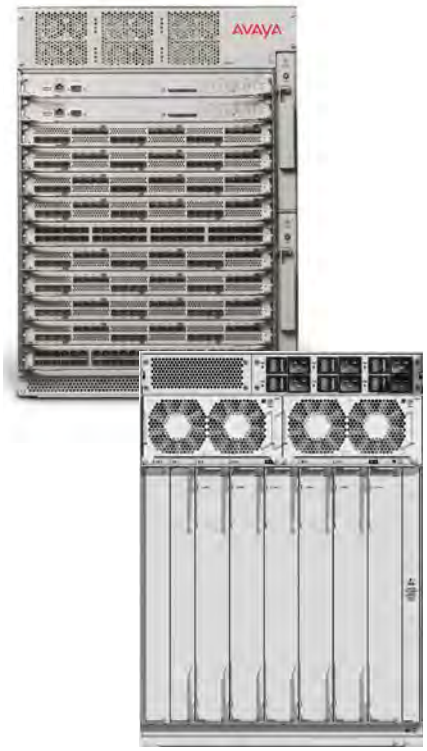
Avaya's Virtualization Provisioning Service (VPS) improves efficiency and flexibility when managing highly dynamic virtual machine environments across the extended data center. Enhanced orchestration and management optimize the efficiency of VMware vCenter live migrations, facilitating more efficient real-time maintenance, dramatically improving time-to-service, reducing errors, delivering effective disaster recovery, and lowering total cost of ownership.

Capability meets simplicity

The combination of virtualized networking services, application awareness, and orchestration capabilities drive network simplification and can lower OPEX. For example VMware vMotion virtual applications are dynamically and seamlessly moved or extended within and between data centers; without the provisioning complexity associated with rival solutions. The Enterprise Fabric offers a robust, resilient alternative to today's existing increasingly complex offerings and it delivers Ethernet-based services and solutions, all while maintaining Ethernet's key value propositions of simplicity and cost-effectiveness.

The VSP 9000 can offer you:

- Very high density 10 Gigabit, and 1 Gigabit, Ethernet aggregation



Virtual Services Platform 9000 (front & rear views)

Real-world scenarios: Avaya VENA Enterprise Fabric

Avaya VENA Enterprise Fabric allows an historic **banking and finance** organization to more quickly plan and implement upgrades and changes to their advanced Cloud-based network that supports its many locations.

The adoption of technology-enhanced learning initiatives have been facilitated at a progressive **university**, and the Enterprise Fabric has contributed to a 200-fold improvement in network fail-over and restoration time, so that students and the faculty are not impacted during planned or unplanned application transitions across its three data centers.

A large regional **health care** provider leverages the Enterprise Fabric to create a shared, virtualized network that supports different user groups, projects, and applications for multiple merged facilities; maintaining a continuously high level of availability for critical care services.

- Future-ready platform for 40/100 Gigabit Ethernet
- Highly robust hardware with no single point-of-failure
- Hardened carrier-class operating system
- Highly-available equipment-level device, combining with native support for Avaya's Switch Clustering architecture to deliver an always-on network-level solution
- Built in diagnostics such as ingress/egress mirroring, L3 remote mirroring, packet capturing, filter logging
- Hitless software patching without reload of the complete system image
- Instantaneous re-route across all ports to minimize packet loss
- Efficient layer 2 and 3 network virtualization services providing supports for multiple customers and user groups on the same platform
- A robust, resilient alternative to today's existing, often complex and/or compromised, offerings
- Highly efficient support for both IPv4 and IPv6 traffic
- Future-ready support for storage convergence with an architecture optimized for Lossless Ethernet

What's on the chassis?

The front of the VSP 9000 contains the I/O slots, dual Control Processor modules and cooling fans; supporting ten I/O slots. Being a compact 14RU means that one 7-foot rack can hold three VSP 9000 chassis. Three module types are being offered initially: 24-port 10GbE SFP+ (also capable of support 1GbE), 48-port 1GbE SFP and 48-port 10/100/1000.

There are two Control Processor modules offering 1+1 redundancy, with the control plane decoupled from the Switching Fabric, leveraging a mid-plane architecture. Two redundant cooling fans are provided for side-to-side cooling for the I/O and Control Processor modules. The speed of the cooling fans is automatically adjusted depending on system temperature and fan status, with sensors located on each slot to test the temperature and manage the fan speed accordingly.

The rear of the chassis contains the power supplies, cooling fans, switch fabric and auxiliary modules. There are six power supplies with N+1 and grid feed redundancy, and the power requirements are automatically load-shared across all installed units. Two additional redundant cooling fans provide front-to-back cooling for the switch fabric and auxiliary modules.

There are up to six switch fabric modules with N+1 redundancy. This is a distributed architecture in which the load is dynamically distributed and shared, and in the event of a switch fabric failure any performance constraint is gracefully managed. The auxiliary module slots are reserved for future use.

How can your network benefit?

The VSP 9000 is designed to maximize the efficiency and potential of your network:

A future-proof platform

- Very high density – 240 port of 10G Ethernet or 480 ports of 1G support from Day 1
- Highly scalable lossless fabric architecture supporting future 40Gbps and 100Gbps interface connectivity, services integration, Converged Enhanced Ethernet and future enabling the expansion of the infrastructure to align with the needs of your business
- Field-programmable RSP network processor delivers flexible data forwarding and investment protection for layer 2-4 10Gbps line-rate capabilities without requiring forklift upgrades for future standards
- IPv4/IPv6 forwarding rate of up to one billion packets per second, per system, allowing for more efficient data transfer

Reliable

- Unmatched resiliency powered by Avaya unique Switch Clustering capability (using split multi-link trunking and Routed Split Multi-Link Trunking technology); High Availability mode engages all links when forwarding traffic, resulting in industry-leading performance and maximization of investment
- Instantaneous all-port re-routing results in the elimination of packet loss
- Redundant and hot swappable control processor and switch fabric modules,

plus redundant cooling fans and power supplies, for unparalleled reliability

Simple, flexible and dynamic

- Helps ensure an uninterrupted virtual application transition within and between data centers (dynamic application allocation of a VMware application)
- Multi-Terabit Switch Clustering optimizes virtual routing and forwarding capacity for multiple customers, enabling always-on and concurrent forwarding of Layer 2-3 traffic across all links

Achieving maximum uptime

Ensuring uninterrupted business operations requires a reliable and resilient platform with no single point-of-failure, and the VSP 9000 can deliver this. From the very outset, the VSP 9000 was designed and developed on the basis of leading-edge hardware resiliency. It provides 1+1 control plane redundancy, with separate management path between the control plane and I/O, 5+1 switch fabric redundancy, 5+1 power supply or grid-feed redundancy, and system cooling fan redundancy. In-service control plane integrity check, rapid detection and recovery of data path and hardware assist are designed to protect the control plane against denial-of-service attacks and system overload, and are just some of the mechanisms in place to ensure system availability.

However, uptime maximization also requires software that allows for easy and efficient management of your network. The VSP 9000 utilizes a carrier-grade Linux operating system, and combines this with a complete set of reporting capabilities and operation-focused features to help ensure this is achieved with streamlined efficiency.

Reporting features include:

- A "flight recorder" style logging capability to help with continuous real-time monitoring of internal control message flows
- Key Health Indicators to provide system operators an view of system health on all levels: OS, system applications / protocols I/O modules, ports and the forwarding path
- Hardware-assisted protection for control plane integrity, constantly monitoring system health and protecting against loop-induced system crashes
- Dedicated "in-service control plane integrity check" and "rapid failure detection and recovery of data path" sub-systems provide real-time health checking and self-healing capabilities
- Checksum logic tests to determine if hardware, firmware or data corruption has occurred
- Memory error-code detection and correction
- Detailed packet statistics and counters for failure debugging
- The ability to remotely update flash images
- Dual flash images to assist when restoring
- Card-based Flash Memory for log capture and retrieval
- Common alarms and logging
- LED indication on cards to indicate activity and system health
- Process separation

This future-proof platform features unique, field-proven technologies, including Switch Clustering, an online packet capture functionality for all ports, and 'ERSPAN'; an enhanced traffic mirroring capability that supports the encapsulation of ACL-defined, Port- or Flow-based sessions so that they can be forwarded seamlessly across the IP network.

The new 'VSP Talk' feature provides critical system health and event monitoring for the VSP 9000, delivered in real-time directly to a smartphone or desktop Instant Messaging client. VSP Talk provides unsolicited, real-time updates and also facilitates on-demand 'show' functionality. Leveraging XMPP, VSP Talk is introduced with initial support for Google Talk, Avaya Aura, and other standards-based platforms. Ideal for monitoring systems in real-time and particularly post-maintenance, VSP Talk supports an abbreviated, IM-style command syntax to accelerate interactive administration. VSP Talk is completely secure, featuring process isolation, transport and password encryption, and full audit logging. When situational awareness is key, stay informed whether you're on the other side of the campus or the other side of the planet.

Real-world scenario: Avaya Network Processing Unit (NPU) advantage

Examples are numerous that detail how the performance of newer features cannot be guaranteed by manufacturers that utilize fixed ASIC technology, including one instance where a rival's top-selling product was only able to deliver IPv6 forwarding performance at 50% of the levels claimed for IPv4. Yet, our unique network processing unit (NPU) has been specifically designed to continue to deliver the same hardware-based performance levels without an upgrade – churn – to hardware. We've leveraged this advantage to deliver emerging functionality such as our next-generation device and network virtualization capabilities.

Why choose Avaya

Avaya has the ability to work within multi-vendor environments but can also serve as your sole provider for efficient networking across all layers of the data center and campus, core to edge. Avaya is delivering carrier-grade reliability to the enterprise network.

The VSP 9000 uses unique and innovation technologies to achieve both blazing performance and rock-solid resiliency, and delivers these in a fully interoperable solution to enable network- and system-level self-healing for uninterrupted business operations. The powerful network virtualization technologies used in the VSP 9000 are specifically designed to support the needs of an evolving virtualized compute environment.

With a highly-scalable switching architecture, the VSP 9000 provides an efficient platform for flexible scaling and growth to meet future network and

application requirements by quickly adapting to business needs, without the need for a forklift upgrade in the availability-sensitive network core. Avaya offers core-to-edge network solutions that ensure design efficiency and lower operational burden.

The bottom line

The VSP 9000 is purpose-built to support dynamic data center and high-density 10 Gigabit Ethernet network core deployments. It can alleviate infrastructure complexity and reduce power consumption with a truly scalable architecture; it is designed to be the high-performance platform for the coming decade.

Uptime is essential - mission-critical applications must be delivered 24x365, without interruption - and the ultra-resilient VSP 9000 delivers against this challenge. It empowers the services needed today and positions networks for the emerging needs of tomorrow, and it does so with a foundation that can be genuinely trusted.

Features such as its hardware-based control plane protection, hardware-assisted Switch Cluster failure and detection, and the carrier-grade operating system make the VSP 9000 one of the most robust high-end core switches on the market. The VSP 9000 has been architected to help meet emerging application requirements, reduce operating expenses and protect investments as both technology and businesses evolve. Virtualization is a key enabling capability, and Avaya is leading the way with our innovative VENA features; creating the perfect storm of capability and simplicity.

The Avaya VSP 9000 is the platform for today and is future-ready for tomorrow, delivering dependable networking infrastructure for successful business evolution.

Learn More

To learn more about the Avaya Virtual Service Platform 9000, contact your Avaya Account Manager, Avaya Authorized Partner or visit us at: **www.avaya.com**.

Specifications

General & Performance

- Switch architecture: 27Tbps gross capacity
- 9090SF Switch Fabric capacity: up to 8.4Tbps
- 9090SF per I/O Slot Packet Switching capacity: 480Gbps Aggregate Bi-Directional
- Initial Frame forwarding rate: up to 1,050Mpps
- Frame length: 64 to 1518 Bytes (802.1Q Untagged), 64 to 1522 bytes (802.1Q Tagged)
- Jumbo Frame support: up to 9.6 KBytes
- Multi-Link/Split Multi-Link Trunks/LAG: up to 512 Groups, with 16 Links per Group
- VRRP Backup Master
- VLANs: up to 4,084
- RSMLT Core & Edge: 4000 VLANs & 512 SMLT links
- Multiple Spanning Tree Instances: up to 64
- MAC Address: up to 128k
- IP Interfaces: 4,343
- Dynamic ARP Entries: up to 64k
- VRRP Interfaces: up to 512
- IP Forwarding Table: 500k
- IP static Routes: up to 10k
- Circuitless IP Instances: up to 256
- ECMP Routes: up to 64k
- RIP Instances: up to 64
- RIP Routes: up to 10k
- OSPF Instances: up to 64
- OSPF Areas: up to 80
- OSPF Adjacencies: up to 512
- OSPF Routes: up to 64k
- BGP Peers: up to 256
- BGP Routes: up to 1,500k
- BGP 4-Octet AS support
- VRF instances (IPv4): up to 512
- L2 VSNs, with HA options
- L3 VSNS, with HA options
- Inter-VSN Routing, with HA options
- IP Shortcut Routing, with HA options
- IPv6 Interfaces: 4k
- IPv6 Routes: up to 128k
- IPv6 Static Routes: up to 10k
- IPv6 Configured Tunnels: up to 2k
- PIM Active Interfaces: up to 512
- IP Multicast Streams: up to 6k (with SMLT)
- IGMP v1 / v2 / v3 interfaces: 4k
- Policy-based Routing
- Flow-based Policers: up to 16k
- Hardware-assisted Ingress & Egress Port & VLAN ACLs
- Enterprise Device Manager GUI, on-box & off-box
- Configuration & Orchestration Manager
- Virtualization Performance & Fault Manager
- Virtualization Provisioning Service
- System and Filter Logging
- On-box Packet Capture
- Mirroring: 1:1 / 1:M / M:1 / M:M
- Layer 2 & 3 Remote Mirroring (aka ERSPAN)
- IPFIX Flows: up to 960k
- Key Health Indicators
- Flight Recorder
- Hardware-assisted Control Plane Protection
- Hardware-assisted Rapid Failure Detection & Recovery (sub-20msec)
- High Availability mode
- Lossless Ethernet mode
- Microsoft NLB (Unicast- / Multicast- / IGMP-modes)

System

- 9012 12-Slot Chassis with 10 Interface Module Slots
- 9080CP Control Processor Module
- 9090SF 1.4Tbps Switch Fabric Module, up to six per Chassis delivering up to 8.4Tbps
- 9006AC 2kW Power Supply

Interface Modules

- 9024XL 24-port 10G Ethernet SFP+ Interface Module
- 9048GB 48-port 1G Ethernet SFP Interface Module
- 9048GT 48-port 1000BASE-T Ethernet Interface Module

IEEE & IETF Standards Compatibility

IEEE

- IEEE 802.1D MAC bridges (Spanning Tree Protocol)
- IEEE 802.1Q VLAN Tagging
- IEEE 802.1X Ethernet Authentication Protocol
- IEEE 802.1AX Link Aggregation Control Protocol (LACP)
- IEEE 802.1p Priority Queues
- IEEE 802.1s Multiple Spanning Tree Protocol (MSTP)
- IEEE 802.1v VLAN Classification by Protocol and Port
- IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
- 802.1ag Connectivity Fault Management
- 802.1aq Shortest Path Bridging (MAC-in-MAC)
- IEEE 802.1Qbb Priority-based Flow Control
- IEEE 802.3 10BASE-T Ethernet
- IEEE 802.3 CSMA/CD Ethernet (ISO/IEC 8802-3)
- IEEE 802.3i 10BASE-T Auto-Negotiation
- IEEE 802.3u 100BASE-FX
- IEEE 802.3u 100BASE-TX Fast Ethernet (ISO/IEC 8802-3, Clause 25)
- IEEE 802.3u Auto-Negotiation on Twisted Pair (ISO/IEC 8802-3, Clause 28)
- IEEE 802.3x Flow Control on the Gigabit Uplink port
- IEEE 802.3z Gigabit Ethernet
- IEEE 802.3ab 1000BASE-BX Ethernet
- IEEE 802.3ab 1000BASE-CWDM Ethernet
- IEEE 802.3ab 1000BASE-LX Ethernet
- IEEE 802.3ab 1000BASE-SX Ethernet
- IEEE 802.3ab 1000BASE-T Ethernet
- IEEE 802.3ab 1000BASE-XD Ethernet
- IEEE 802.3ab 1000BASE-ZX Ethernet
- IEEE 802.3ae 10GBASE-X

And hardware-ready for emerging technology such as:

- IEEE 802.1AXby Link Aggregation: Distributed Resilient Network Interconnect
- IEEE 802.1Qbg Edge Virtual Bridging
- IEEE 802.1Qbp Equal Cost Multiple Paths for SPBM

Specifications

IEEE & IETF Standards Compatibility (cont.)

IETF

- RFC 768 UDP Protocol
- RFC 783 TFTP Protocol
- RFC 791 IP Protocol
- RFC 792 ICMP Protocol
- RFC 793 TCP Protocol
- RFC 826 ARP Protocol
- RFC 854 Telnet Protocol
- RFC 894 A standard for the Transmission of IP Datagrams over Ethernet Networks
- RFC 896 Congestion control in IP/TCP internetworks
- RFC 903 Reverse ARP Protocol
- RFC 906 Bootstrap loading using TFTP
- RFC 950 Internet Standard Sub-Netting Procedure
- RFC 951 / RFC 2131 BootP / DHCP
- RFC 1027 Using ARP to implement transparent subnet gateways/ Nortel Subnet based VLAN
- RFC 1058 RIPv1 Protocol
- RFC 1112 IGMPv1
- RFC 1122 Requirements for Internet Hosts
- RFC 1256 ICMP Router Discovery
- RFC 1305 Network Time Protocol v3 Specification, Implementation and Analysis
- RFC 1340 Assigned Numbers
- RFC 1340 Assigned Numbers
- RFC 1519 Classless Inter-Domain Routing (CIDR): an Address Assignment and Aggregation Strategy
- RFC 1541 Dynamic Host Configuration Protocol1
- RFC 1542 Clarifications and Extensions for the Bootstrap Protocol
- RFC 1583 OSPFv2 RFC 1587 The OSPF NSSA Option
- RFC 1591 DNS Client
- RFC 1723 RIP v2 – Carrying Additional Information
- RFC 1745 BGP / OSPF Interaction
- RFC 1771 / RFC 1772 BGP-4
- RFC 1812 Router Requirements
- RFC 1866 HTMLv2 Protocol
- RFC 1965 BGP-4 Confederations
- RFC 1966 BGP-4 Route Reflectors
- RFC 1981 Path MTU Discovery for IPv6
- RFC 1997 BGP-4 Community Attributes
- RFC 1998 An Application of the BGP Community Attribute in Multi-home Routing
- RFC 2068 Hypertext Transfer Protocol
- RFC 2131 Dynamic Host Control Protocol (DHCP)
- RFC 2138 RADIUS Authentication
- RFC 2139 RADIUS Accounting
- RFC 2178 OSPF MD5 cryptographic authentication / OSPFv2
- RFC 2236 IGMPv2 for snooping
- RFC 2270 BGP-4 Dedicated AS for sites/ single provide
- RFC 2328 OSPFv2
- RFC 2362 PIM-SM
- RFC 2385 BGP-4 MD5 authentication
- RFC 2439 BGP-4 Route Flap Dampening
- RFC 2453 RIPv2 Protocol
- RFC 2740 OSPF for IPv6
- RFC 2796 BGP Route Reflection – An Alternative to Full Mesh IBGP
- RFC 2819 Remote Monitoring (RMON)
- RFC 2874 DNS Extensions for IPv6
- RFC 2918 Route Refresh Capability for BGP-4
- RFC 2992 Analysis of an Equal-Cost Multi-Path Algorithm
- RFC 3046 DHCP Relay Agent Information Option 82
- RFC 3065 Autonomous System Confederations for BGP
- RFC 3162 RADIUS and IPv6
- RFC 3315 DHCP for IPv6
- RFC 3376 IGMPv3
- RFC 3569 An overview of Source-Specific Multicast (SSM)
- RFC 3513 Internet Protocol Version 6 (IPv6) Addressing Architecture
- RFC 3587 IPv6 Global Unicast Address Format
- RFC 3768 Virtual Router Redundancy Protocol
- RFC 4213 Basic Transition Mechanisms for IPv6
- RFC 4893 BGP Support for 4-Octet AS Number Space
- RFC 6329 IS-IS Extensions supporting Shortest Path Bridging

QoS

- RFC 2474 / RFC 2475 DiffServ Support
- RFC 2475 An Architecture for Differentiated Service
- RFC 2597 Assured Forwarding PHB Group
- RFC 2598 Expedited Forwarding PHB

Network Management

- RFC 959 File Transfer Protocol
- RFC 1155 SMI
- RFC 1157 SNMP
- RFC 1215 Convention for defining traps for use with the SNMP
- RFC 1269 Definitions of Managed Objects for the Border Gateway Protocol: v3
- RFC 1271 Remote Network Monitoring Management Information Base
- RFC 1258 BSD Rlogin
- RFC 1305 (NTP client / unicast mode only)
- RFC 1350 The TFTP Protocol (Revision 2)
- RFC 1354 IP Forwarding Table MIB
- RFC 1389 RIP v2 MIB Extensions
- RFC 1757 / RFC 2819 RMON
- RFC 1907 SNMPv2
- RFC 1908 Coexistence between v1 & v2 of the Internet-standard Network Management Framework
- RFC 1930 Guidelines for creation, selection, and registration of an Autonomous System (AS)
- RFC 2428 FTP Extensions for IPv6
- RFC 2541 Secure Shell Protocol Architecture
- RFC 2571 An Architecture for Describing SNMP Management Frameworks
- RFC 2572 Message Processing and Dispatching for the Simple Network Management Protocol (SNMP)
- RFC 2573 SNMP Applications
- RFC 2574 User-based Security Model (USM) for v3 of the Simple Network Management Protocol (SNMPv3)
- RFC 2575 View-based Access Control Model (VACM) for the Simple Network Management Protocol (SNMP)
- RFC 2576 Coexistence between v1, v2, & v3 of the Internet standard Network Management Framework
- RFC 2616 Hypertext Transfer Protocol 1.1
- RFC 4250 Secure Shell (SSH) Protocol Assigned Numbers
- RFC 4251 Secure Shell (SSH) Protocol Architecture
- RFC 4252 Secure Shell (SSH) Authentication Protocol
- RFC 4253 Secure Shell (SSH) Transport Layer Protocol
- RFC 4254 Secure Shell (SSH) Connection Protocol
- RFC 4255 DNS to Securely Publish SSH Key Fingerprints
- RFC 4256 Generic Message Exchange Authentication for SSH

MIBs

- RFC 1156 MIB for network management of TCP/IP
- RFC 1212 Concise MIB definitions
- RFC 1213 TCP/IP Management Information Base
- RFC 1213 MIB II
- RFC 1354 IP Forwarding Table MIB
- RFC 1389 RIP v2 MIB Extension
- RFC 1389 / RFC 1724 RIPv2 MIB extensions
- RFC 1398 Ethernet MIB
- RFC 1442 Structure of Management Information for version 2 of the Simple Network Management Protocol (SNMPv2)
- RFC 1450 Management Information Base for v2 of the Simple Network Management Protocol (SNMPv2)
- RFC 1573 Interface MIB
- RFC 1650 Definitions of Managed Objects for the Ethernet-like Interface Types
- RFC 1657 BGP-4 MIB using SMIv2
- RFC 1850 OSPF MIB
- RFC 2021 RMON MIB using SMIv2
- RFC 2096 IP Forwarding Table MIB
- RFC 2452 IPv6 MIB: TCP MIB
- RFC 2454 IPv6 MIB: UDP MIB
- RFC 2466 IPv6 MIB: ICMPv6 Group
- RFC 2578 Structure of Management Information v2 (SMIv2)
- RFC 2674 Bridges with Traffic MIB
- RFC 2787 Definitions of Managed Objects for the Virtual Router Redundancy Protocol
- RFC 2863 Interface Group MIB
- RFC 2925 Remote Ping, Traceroute & Lookup Operations MIB
- RFC 2932 IPv4 Multicast Routing MIB
- RFC 2933 IGMP MIB
- RFC 2934 PIM MIB
- RFC 3416 v2 of the Protocol Operations for the Simple Network Management Protocol (SNMP)
- RFC 4022 Management Information Base for the Transmission Control Protocol (TCP)
- RFC 4113 Management Information Base for the User Datagram Protocol (UDP)

Specifications

IEEE & IETF Standards Compatibility (cont.)

Weights & Dimensions

- Height: 61.91cm (24.375in.) or 14RU
- Width: 44.45cm (17.5in.)
- Depth: 82.55cm (32.5in.)
- Weight (empty): 73kg (160lb)
- Weight (fully loaded): 131kg (288lb)

Cooling system

- Two side-to-side fan trays
- Two front-to-back fan trays

Safety agency approvals

- UL/CSA-60950-1
- EN60950-1
- IEC60950-1 CB scheme with all country differences

Environmental specifications

- Operating temperature: 0°C to 40°C (32°F to 104°F)
- Storage temperature: -25°C to 70°C (-13°F to 158°F)
- Operating humidity: 10% to 90% relative humidity, non-condensing
- Storage humidity: 0% to 90% relative humidity, non-condensing
- Shock/bump: IEC 68-2-27-29
- Operating altitude: 3024m (10,000ft) maximum
- Storage altitude: 3024 m (10,000 ft) maximum
- Free fall/drop: ISO 4180-s, NSTA 1A
- Vibration: IEC 68-2-6/34

Electromagnetic emissions summary

- FCC Part 15 (CFR 47) (USA) Class A
- ICES-003 (Canada) Class A
- EN55022 (Europe) Class A
- CISPR22 (International) Class A
- AS/NZS CISPR22 (Australia and New Zealand) Class A
- VCCI (Japan) Class A
- CISPR24
- EN55024
- EN61000-3-2
- EN61000-3-3
- EN300 38

Country of Origin

Malaysia

Ordering Information

Component	Part Code	Description
Chassis	EC1402001-E6	9012 12-Slot Chassis – complete with Front and Rear Fan Trays, Rack Mount Kit, and Cable Guide Kit
System Modules	EC1404007-E6	9080CP Control Processor Module
	EC1404006-E6	9090SF Switch Fabric Module
Power Supplies	EC1405A01-E6	9006AC 100-240 VAC Power Supply – country-specific Power Cords sold separately
Interface Modules	EC1404001-E6	9024XL 24-port 10G Ethernet SFP+ Interface Module – SFP+ Transceivers sold separately
	EC1404002-E6	9048GB 48-port 1G Ethernet SFP Interface Module – SFP Transceivers sold separately
	EC1404003-E6	9048GT 48-port 10/100/1000 RJ-45 Ethernet Interface Module
Software	EC1410003-3.3	Virtual Services Platform 9000 Base Software Kit for 1 Chassis – mandatory for every Chassis
	EC1410010	Virtual Services Platform 9000 Advanced License Kit for 1 Chassis – enabled features: BGP4 Limited (16 Peers, 64k Routes), IPv6 Routing, Layer 3 Remote Mirroring, Packet Capture (PCAP)
	EC1410015	Virtual Services Platform 9000 Premier License Kit for 1 Chassis – enabled features: Advanced License Features, BGP4 Unlimited (256 Peers, 500k Routes), CEE, VRF-Lite, Enterprise Fabric (Enhanced SPB)

(Principle components only, and does not include ancillary components such as Transceivers, etc)

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
06/12 • DN4535-06

AVAYA
The Power of We™

Avaya Wireless LAN 8100 Series

The Avaya WLAN 8100 Series combines the latest 802.11n wireless standard with a new and truly integrated wireless/wired architecture for a stellar result – an advanced solution that delivers wired performance to wireless users at a lower total cost of ownership.

Optimized Support for Real Time Applications

With the explosion of mobile devices such as smart-phones and tablets within the enterprise, it is imperative that WLAN networks can handle this rapid growth. At the same time, networks must meet the stringent requirements that real time applications, such as video and voice, place on the Wi-Fi infrastructure. Avaya has designed the WLAN 8100 Series from the ground up to provide optimized support for real time applications and to provide anytime, anywhere access for the full breadth of enterprise applications. The series includes three primary components: WLAN Access Points, WLAN Controllers and the WLAN Management Software.

WLAN Access Points provide wireless access to mobile devices and perform encryption/decryption for wireless traffic, priority queuing and radio frequency (RF) monitoring, including rogue access point identification and containment.

Features include:

- One to three 802.11a/b/g/n radios
- Two spatial streams over integrated MIMO Antennas (2.4 GHz and 5 GHz)
- Integrated and external antenna options
- Simultaneous dual band operation (2.4 GHz and 5 GHz)
- Adaptive frame aggregation
- One GigE uplink port
- Full performance with current 802.3af Power over Ethernet standard
- Indoor and outdoor AP options

The New Era of Wireless Connectivity

The market is embarking on a new era where an enterprise's wireless network will deliver services at levels equivalent to wired LANs. This will enable office environments to be entirely wireless and integrated with existing fixed and cellular wide area networks, giving workforces seamless universal mobility both in and out of the office. This will require a true wireless broadband infrastructure capable of supporting all communications needs, including voice, video, unified communications, and other real-time applications. With the Avaya next generation WLAN 8100, the freedom of true high-speed wireless can transform the office environment.

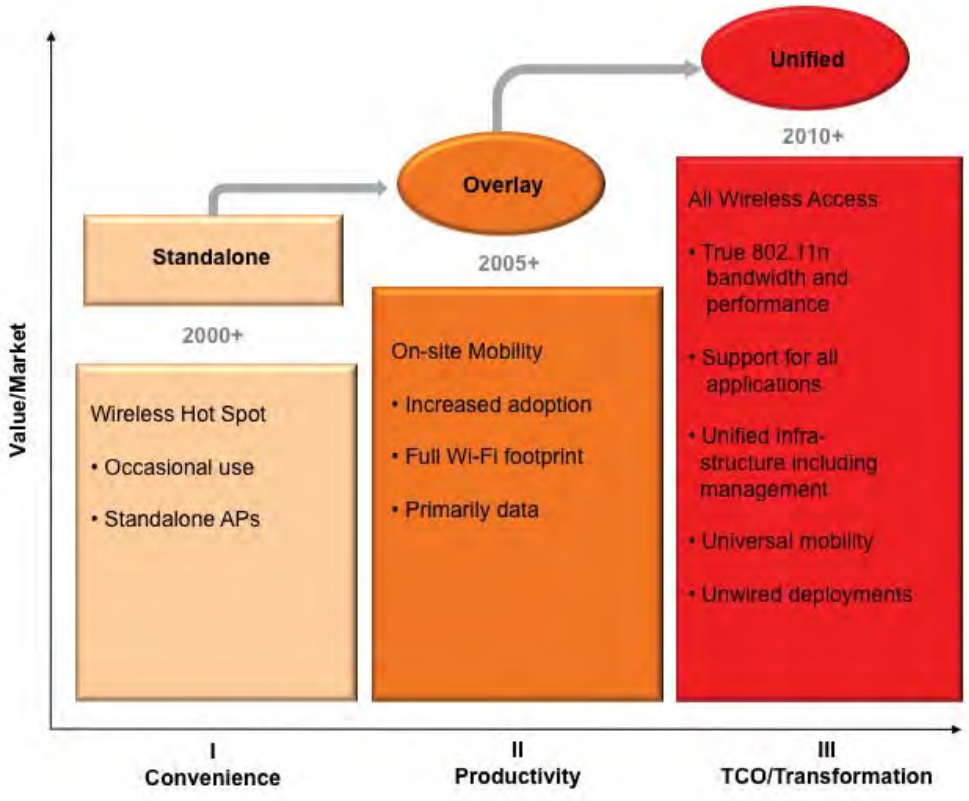
WLAN Controllers control the access points and perform key centralized functions such as security, networking, quality of service (QoS), and roaming for mobile users. Controllers can be deployed as either standalone wireless controllers or integrated into the Avaya wired portfolio with the control capability running as a virtual machine on a server.

Features include:

- Support for up to 512 access points
- Scalable architecture with separate data and control planes, each of which can scale independently
- Expansion module for further scalability
- Ability to move data plane and/or control plane to core/edge switches

The WLAN Management Software is a comprehensive design and management tool that provides granular monitoring and reporting for complete visibility and control over the entire system. It integrates with Avaya Unified Communications Management.

By offering centralized management and eliminating the need to support multiple overlay networks—including LAN, WLAN, VPN, voice and network management—the WLAN 8100 Series can lead to significant operational cost savings. The series simplifies surveying, configuring, deployment, monitoring and reporting functions, and also includes self-diagnosing and self-healing capabilities to support mainstream WLAN applications as efficiently as possible.



New Architecture for a New World

To help WLANs reach the speeds of wired LANs, Avaya has developed a new approach to solve old wireless traffic bottlenecks.

Traditional centralized architectures route all wireless control and data traffic through a wireless controller before forwarding it to its final destination. As more users join the network, traffic increases. Bandwidth-heavy applications such as video add to this congestion. Because everything on the network is forced through the same gate, the wireless controller becomes an unavoidable bottleneck and degrades performance.

Avaya next generation WLAN architecture decouples wireless control (management) traffic from wireless data (application) traffic, enabling increased resilience and performance, without sacrificing the ability to quickly increase network capacity.

By separating the control and data functions, the Wireless Control Point can run on virtual servers rather than dedicated network hardware. This not only increases network performance; it can reduce hardware costs and network complexity.

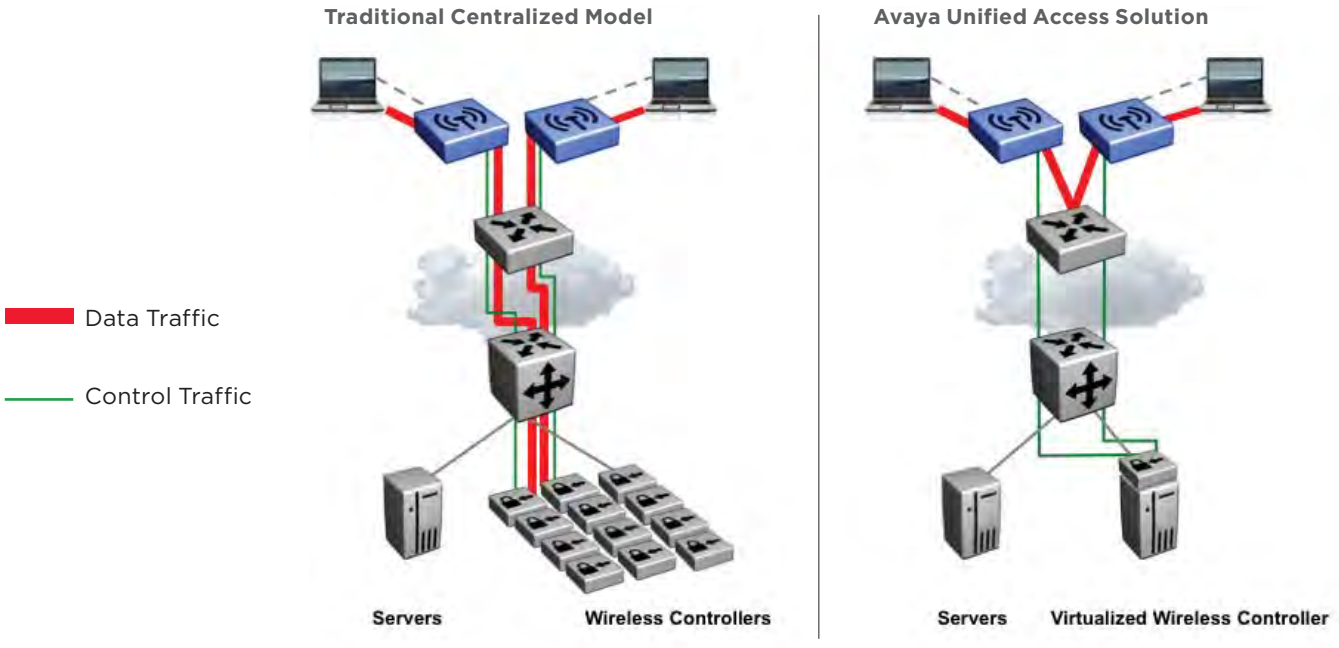
For enterprises using Avaya LAN Switching products, wireless switching will be implemented as a software function in Avaya-enabled core or access switches upon availability of next generation stackable Ethernet Routing Switches.

Key benefits of the Avaya VENA Unified Access architecture include:

- Optimized performance allowing wireless data to take the most efficient path through the LAN switches directly from source to destination, helping reduce latency and jitter to create a better user experience for real time traffic, such as voice
- Improved network resilience and flexibility through virtualization of the wireless control function
- Easy, independent scalability for wireless application and control traffic, allowing businesses to scale bandwidth in a sensible and efficient way, and enterprises to load services (such as mobility roaming) without limiting the domain size
- Reduced hardware and equipment costs through switch virtualization and more efficient data flow

Advanced Services for an Advanced Network

For wireless to truly become an end user's primary means of network access, it must be able to support the same applications that run over a wired LAN infrastructure. The WLAN 8100 provides optimized support for every aspect of an enterprise network including voice, unified communications, video, emergency location services (E-911 in U.S.), location tracking, guest management and advanced security, all with un- precedented reliability and resilience.



Avaya VENA* Unified Access

The Avaya VENA Unified Access offers a unique, innovative approach to wired and wireless integration. It enables enterprises to build a unified infrastructure that can extend across the entire enterprise environment. By embedding wireless forwarding in the Ethernet switching infrastructure it solves the challenge of cost-effective scale and performance as media-rich collaboration and Bring Your Own Device (BYOD) descend upon the Enterprise.

Unified Access seamlessly combines Avayas WLAN 8100 wireless solutions with its Ethernet Routing Switch (ERS) 8800 by integrating wireless LAN forwarding directly into the switching architecture. This improves application performance and provides enhanced resiliency and scalability. Wireless management traffic is centralized to help ensure ubiquitous mobility to users as they roam and can be virtualized. And, because WLAN forwarding is integrated into Avaya's switches, wireless traffic is routed directly to its final destination, reducing latency and jitter and ensuring the optimal experience for real-time traffic such as voice and video.

Video

An increasing number of enterprises are relying on video to facilitate communication and reduce travel expenses. While video already represents a major driver of bandwidth consumption, this is expected to grow more rapidly in the next five years, placing increasing demands on the network in the process.

The WLAN 8100 Series Unified Access architecture efficiently routes high bandwidth video traffic and can quickly scale to meet the increased demand without additional hardware investment.

Voice

The WLAN 8100 delivers high-quality voice and converged services to achieve measurable user productivity improvement. By offering a single turnkey end-to-end mobility solution (the Avaya Mobile Collaboration solution), that includes networking and UC infrastructure, enterprise applications and services, Avaya can truly unify enterprise communications.

The Avaya VoWLAN solution includes:

- Industry leading voice and video call density per **access point**
- VIEW certification with Avaya Wireless Handsets for proven Wi-Fi interoperability and maximum performance
- VoWLAN clients offering full interoperability with Avaya IP PBX systems
- Voice calling from PCs with Avaya one-X® Softphone
- Advanced Call Admission Control (CAC) algorithms to help ensure excellent voice quality

Instead of simply counting calls like most competitive solutions, the Avaya Dynamic CAC solution takes into account bandwidth usage and changes in the RF environment. This allows more calls to be admitted while preserving optimum call quality. Three key parameters allow Avaya CAC to preserve optimum quality:

Media Measurement gives a holistic understanding of resource consumption for all sessions in progress, including RF bandwidth consumption, inter-ference and other factors. The product of these measurements constitutes a "utilization factor" that helps estimate traffic and call flow.

New-Flow Estimation lets new calls send mobile signals to the AP that specifies the traffic attributes and QoS requirements for a session. The New-Flow Estimator combines the resource requirements for the call with available resources in the network to estimate the total new resource usage.

Admission Decision decides whether or not to admit the new call based on the New-Flow Estimation. If enough resources are not available, Admission Decision can borrow bandwidth from other applications, enabling powerful resource sharing possibilities.

*Avaya Virtual Enterprise Network Architecture (VENA) is an enterprise-wide virtualization framework that simplifies the network, streamlines the deployment of cloud-based services and improves the delivery of always-on content.

Emergency Location Services

While mobile communications offer many advantages, an emergency offers a unique challenge. E-911 tracking systems can be ineffective for WLAN handsets since a user with a Wi-Fi mobile handset can call from anywhere.

Traditionally, call locations were mapped to an originating static line. Since the advent of mobile phones and IP telephony, 911 emergency response systems have had to adapt to an environment where calls can be placed from almost anywhere and change at a moment's notice.

A number of solutions have tried to solve this problem with limited success. Most have been undermined by a presumption that a network's wiring structure doesn't change. While they allow for instantaneous identifica-tion of a call's origin, the entire network database must be updated the moment a single cable is moved or changed for the system to continue functioning.

With the WLAN 8100 Series, Avaya supports full E-911 VoWLAN integration. The WLAN 8100 Controller interfaces with the Avaya Communication Server 1000 call server or Avaya Aura® architecture to precisely identify the location of an emergency call. This is made possible by allowing the mobile handset or client application to communicate with the nearest AP to establish an emergency response location (ERL). In the event of an E-911 call, the ERL is relayed to emergency dispatchers. If the call location changes, dispatchers are updated in real-time. ERLs are mapped to APs, thus covering the entire wireless network area. Because they are rarely moved, mapping devices to access points is an efficient and reliable way to establish their location and is resistant to disruption by future technological changes.

Guest Access and Management

Enterprise networks must be open enough to allow easy access for guests and temporary users, but secure enough to prevent these same users from accessing restricted information.

Guest access is one of the most pervasive applications of wireless networking, but most solutions require dedicated resources, such as front desk and IT personnel, in order to provision accounts. Privileged access to infrastructure devices can also open the core network to potential security risks.

The WLAN 8100 Guest Management solution provides enterprises with 24/7 guest network access without requiring the overhead of an IT helpdesk. The Avaya IDEngine Guest Manager generates a unique user ID and password for each visitor, providing secure, convenient network connectivity for guests and temporary users. User IDs come with specific security profiles that enable access only for specific resources and a limited amount of time. Guest provisioning can be generated automatically, or customized by front desk or IT personnel. Once a user has been provisioned, they have seamless controlled access through either wired and/or wireless infrastructures.

Avaya Guest Management solutions include:

- Authenticated wireless access using captive-portal for guest users and temporary staff with notebook PCs, tablets, PDAs or smart phones
- Simplified guest user provisioning by corporate end-users, which offloads the task of creating and managing guest user accounts from front desk personnel or IT staff
- The ability to allow partial access to specific parts of the network based on different guest user classes

Location Tracking

More businesses are embracing location tracking as a means to improve productivity and reduce costs. In certain environments, such as hospitals, knowing the location of a staff member or a specific piece of equipment can literally be the difference between life and death. For other enterprises, tracking equipment location can be a significant driver for cost savings.

Enterprises can implement location tracking for all 802.11 devices using active RFID tags and their existing WLAN infrastructure. Avaya Real Time Location Services (RTLS) allows enterprises to track personnel and assets as they move within the Avaya WLAN 8100 Series network. Easy to use, cost effective and accurate, Avaya location tracking is inter-operable with any Wi-Fi-enabled device in the WLAN 8100 coverage area. To track non-Wi-Fi assets, Avaya offers battery-powered RFID tags that interact with RTLS servers and applications for comprehensive, real-time tracking.

802.11n: A Truly Wireless Standard

The 802.11n standard brings wireless networking greater range and penetration than ever before. The standard adds multiple-input multiple-output (MIMO) antennas to wireless devices. In addition, with bandwidth up to 300 megabits per second, 802.11n is up to five times faster than the previous wireless standard for a true broadband experience.

Network Security

As with any network, security is a top priority for the Avaya WLAN 8100 Series. A holistic approach addresses security in a number of ways:

Authentication and Encryption keep user data secure and confidential. Built around the 802.11i standard, the WLAN 8100 Series supports WPA2, WEP, 802.1X and Proactive Key Caching; security measures that are more robust than most wired networks.

Wireless Intrusion Detection (WID) provides RF surveillance to detect rogue network activity and malicious attacks. WLAN 8100 provides basic WID capabilities and an advanced Wireless Intrusion Detection System / Wireless Intrusion Prevention System option for enterprises requiring greater security.

Unauthorized Access Point Protection finds and contains unauthorized wireless activity. The WLAN 8100 Series scans and maps the RF neighborhood, monitoring activity to help ensure only authorized access points are granted network access. Any unauthorized wireless paths into the network, such as peer-to-peer sharing programs, are isolated and contained.

Secure BYOD delivers secure network access to users and devices. Because most Wi-Fi devices are also mobile, they can connect to hundreds of networks in their lifetime. The WLAN 8100 Series supports 802.1X Port-Based Network Access Control for identifying users for authentication and authorization to an assigned virtual LAN. The physical or virtual WLAN Controller works closely with the AAA server to offload the 802.1X EAP protocol processing, reducing the burden on the AAA server. In addition, Avaya IDEngines Ignition Server provides centralized authentication and authorization for wired, wireless and VPN network devices, including:

- AAA identity-based network access control
- Easy-to-use standards- based policy engine
- RADIUS integration with all enterprise network equipment
- Quick and deep integration with major directories

Avaya Identity Engines also makes it easier and more cost effective for organizations to provide secure, controlled BYOD access to employees and guests on wired and wireless networks.

- The Identity Engines Access Portal "finger prints" devices, providing detailed visibility into the type and profile of BYOD devices being used on the network. For example, it allows IT staff to recognize whether users are connecting with an Android phone, iPad or laptop, and to tailor the access level appropriately.
- The Identity Engines Client Access to the Secure Enterprise (CASE) wizard is a dissolvable client that configures user devices for secure access without revealing shared keys or certificates. The CASE client is particularly useful when guests arrive with unmanaged personal devices that need secure limited access to network resources. The client configures such devices within seconds then disappears without a trace.

Always-On Architecture

Next generation WLAN solutions require high resiliency and ubiquitous WLAN coverage. The Avaya always-on architecture features a number of capabilities that maximize network uptime:

- Hitless failover without service interruption
- APs that dynamically map to controllers, optimizing auto-AP load balance
- AP/controller clustering support, many-to-many redundancy and the addition of new switches without needing to configure changes and with zero network downtime

Each WLAN Controller 8180 comes with 16 or 64 AP licenses, with more available for purchase as needed. When fully operational, the WLAN controllers automatically load balance the APs. If a controller fails, licenses on that controller automatically shift to another. In the event of a hardware failure, this provides license failover and eliminates the need to purchase additional licenses. To get the same level of resiliency from other solutions, enterprises would have to purchase licenses on both controllers, doubling the cost.

WLAN 8100 – A Wireless Solution for a Wireless World

The WLAN 8100 offers the speed and security of a wired LAN with increased scalability, flexibility and resilience. A next generation solution that offers common policies and tools for security, guest access and network management, the WLAN 8100 is the cornerstone to a truly wireless environment. The Avaya WLAN 8100 Series leverages the rich heritage of carrier-grade voice and more than a decade of wireless innovation. A unique, wireless architecture allows the WLAN 8100 Series to adapt to enterprise needs as they arise using fewer components and more affordable hardware investments.

Move to the next generation of wireless without compromising speed, security or performance, all for a lower total cost of ownership.

WLAN AP 8120
Indoor, high performance, 802.11n, dual radio access point with integrated antenna.

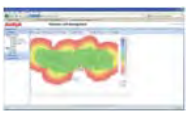
WLAN AP 8120-E
Plenum-rated, two radio, 802.11n access point for use with external antennas.

Omni directional external antenna
External dual band MIMO antenna 180o for WLAN AP 8120-E (6 element).

WLAN 8120-O
Outdoor, two radio, 802.11n access point

Directional external antenna
External dual band MIMO antenna 70o for WLAN AP 8120-E (3 element).

WLAN Controller 8180
Two models: WC 8180: 64 license controller and WC 8180 -16L: 16 license controller.



WLAN Management System 8100
Comprehensive design and management tool license controller.

Top 10 WLAN 8100 Differentiators

1. **Optimized support for Business Applications**
   More than just web or email access, Avaya WLAN excels at voice, video and data

2. **Support for Advanced Wireless Applications**
   Out-of-the-box E-911 location tracking helps reduce integration costs

3. **Availability**
   Avaya WLAN supports load balancing, controller clustering and license pooling, delivering higher availability at a lower cost

4. **Scalability**
   Scale users or data paths independently as needed

5. **Performance**
   Avaya WLAN supports a high number of active Wi-Fi calls per access point

6. **Security**
   Much more than just WLAN security standards, Avaya provides full centralized (unified) network access control for both wired and wireless

7. **Network Management/Administration**
   Manage the ecosystem, not the box with integrated wired, wireless and voice network management from Avaya

8. **Architecture**
   Users receive equal levels of service whether running wired or wireless

9. **Total Cost of Ownership**
   Unified approach removes not only performance boundaries but also CAPEX and OPEX versus the overlay model

10. **Full Solution Provider**
    Avaya offers a true and proven end-to-end ecosystem, from critical unified communications applications through the access technologies, management and services

Learn More

To learn more and to obtain additional information such as white papers and case studies about Avaya Wireless LAN contact your Avaya Account Manager or Authorized Partner or visit us online at **www.avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
08/12 • DN5110-01

AVAYA

The Power of We™

Avaya 1600 Series IP Deskphones

The Avaya 1600 Series IP Deskphones are a value-priced family of deskphones designed to meet basic communication needs in a low-cost package with the quality and reliability you expect from Avaya. The 1600 Series IP Deskphones are designed for the same user profiles as the top-of-the-line 9600 Series IP Deskphones, thus offering a feature-set and price-point alternative. By providing a range of endpoints covering the differing needs of users at all price points, Avaya makes it possible for companies to equip their workforce with deskphones that look great, sound better, enhance productivity, and turn communications into a competitive advantage. With similar industrial design and administration, the 1600 Series and 9600 Series may be deployed in mixed environments or on their own.

- IP Deskphones for the value-oriented customer.
- Straightforward, familiar access to the most common telephony features.
- Cost effective, competitive price point.
- The quality and reliability you expect from Avaya.

For businesses seeking an easy, cost-effective transition to IP Deskphones, Avaya presents the 1600 Series IP Deskphones. With **features and capabilities** generally not found in competitively-priced models, these phones offer an attractive upgrade from older systems or an addition to your existing Avaya phone solution portfolio.

1600 Series IP Deskphones combine traditional telephone features such as dual LED indicators and fixed feature buttons (e.g., conference, transfer, hold) with contemporary innovations such as softkeys, navigation wheel and a context-sensitive user interface (in select models).

Also standard on the 1600 series: 2-way speakerphones, backlit displays and multi-line capabilities. These stylish deskphones are **a smart addition to any retail store, branch or corporate office.**

A Familiar, Functional Interface

The 1600 Series IP Deskphones combine the best of past and present. Fixed keys – familiar to any phone user – provide easy access to the most common features. Meanwhile, flexible softkeys provide contextual guidance and prompts for ease of use and efficiency.

1603-I IP Deskphone
1603SW-I IP Deskphone

1608-I IP Deskphone

1616-I IP Deskphone

Clear Sound, Clean Looks

The 1600 Series IP Deskphones offer clear, clean audio that will more than satisfy the most discerning users. All models come with an integrated 2-way speakerphone. The phone's streamlined industrial design reflects its function as a true business-class communications device.

Built-in Investment Protection

The 1600 Series IP Deskphones have been engineered to adapt to your company's growing needs. The external Gigabit Ethernet adaptor allows you to attach a PC that can function with a high-speed connection to applications on your network, while the 32-button expansion module for the 1616-I can be custom-programmed to fulfill a wide range of specific user needs.

Top Value for Your Communications Dollar

You expect top quality and reliability from Avaya and the 1600 Series IP Deskphones deliver by giving you a solidly built phone that can outlast competitors' low-cost phones – stretching your investment and lowering total cost of ownership. It's a cost-effective solution that delivers significant competitive advantages at its price point.

Protect Your Investments with SIP

SIP support on the 1603SW-I IP Deskphone extends your investments even further with enhanced manageability, serviceability, and integration with Avaya Aura™ Session Manager 6.0, Avaya Aura™ Communication Manager 6.0 and Avaya Midsize Business Template 5.2.1.

For Walkup users and Everyday users: the 1603-I and 1603SW-I IP Deskphones. The Avaya 1603-I and 1603SW-I IP Deskphones are designed for the Walkup user and the Everyday user. They're ideal for locations such as common areas in offices, stockrooms, lobbies, or drop-in desks. Visitors – including customers – are examples of Walkup users who need a phone with a simple, familiar interface. It's also perfect for the Everyday phone users for whom a phone is not the one critical piece of their communication needs. For Avaya IP Softphone users on Communication Manager and Phone Manager application users on IP Office, this is the perfect desktop companion.

1603-I and 1603SW-I highlights:

- Supports 3 administrable feature buttons.
- Each button includes dual LED's (red, green) providing explicit status for the user.

- Includes fixed feature keys for common telephone tasks including conference, transfer, drop, hold, mute.
- 2-way speakerphone.
- 2 lines by 16 character display, backlit for easier viewing in all lighting conditions.
- Secondary Ethernet 10/100 port for a collocated laptop or PC available on the 1603SW-I.
- SIP Support on the 1603SW-I provides a low cost basic SIP phone option and integration with the Avaya Aura™ environment.

For Everyday users: the 1608-I. Everyday users typically rely on several forms of communication including voice and email – and while they require a quality telephone, their telephone use is relatively light or straight-forward in nature. Cubicle workers and sales staff within a retail store are examples of Everyday users for whom the 1608 delivers a productivity-enhancing telephone.

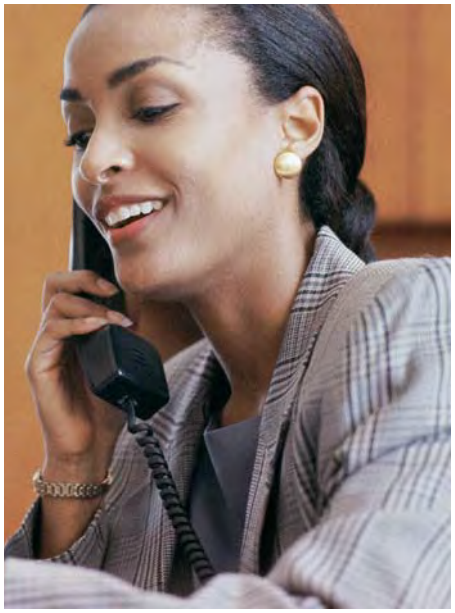
1608-I highlights:

- Supports 8 administrable feature buttons.
- Each button includes dual LED's (red, green) providing explicit status for the user.
- Includes several fixed feature keys for common telephone tasks including conference, transfer, drop, hold, mute.
- Includes high quality, 2-way speakerphone.
- Supports a broad portfolio of Avaya wired and wireless headsets through its integrated headset jack.
- 100 number capacity contacts and call log applications that can enhance productivity and personalization.
- Context sensitive user interface along with 3 softkeys and a 4-way navigation cluster – ideal for scrolling through the local contacts list or call logs.
- The 3 line by 24 character display is backlit for easier viewing in all lighting conditions.

For Navigators: the 1616-I. The Avaya 1616-I IP Deskphone is designed for the Navigator type user. Receptionists, assistants, and managers are examples of Navigator users – people who answer incoming calls, transfer customers to different departments or extensions, and monitor several line appearances throughout atypical day. For the Navigator user, the 1616-I provides the most 1-touch line/feature/speed-dial buttons without the need to scroll through on-screen lists.

1616-I highlights:

- The Avaya 1616-I IP Deskphone supports 16 administrable feature buttons on the phone itself – and a 32-button expansion model provides access to a total of 48 feature keys or speed dial buttons.
- Each of the buttons features a dual LED (red, green) providing explicit status for the user.



- For a familiar look and feel, the 1616-I includes several fixed feature keys for common telephone tasks including conference, transfer, drop, hold and mute.
- In addition, the 1616-I includes a high quality 2-way speakerphone, and supports a broad portfolio of Avaya wired and wireless headsets through its integrated headset jack.
- Context sensitive user interface along with 3 softkeys and a 4-way navigation cluster – ideal for scrolling through the local contacts list or call logs.
- The viewing angle of the display on the 1616-I is adjustable and measures 4 lines by 24 characters.
- Additional caller related information is displayed with active appearances for easier call handling.
- The display is backlit for easier viewing in all lighting conditions.

Learn More

With more than 100 years as a leader in communications, Avaya can help your company maximize productivity with the communications solutions specific to the needs of your workforce.

To learn more about the Avaya 1600 Series IP Deskphones, contact your Avaya Account Manager, Authorized Partner or visit **avaya.com** for white papers, case studies and other information showcasing Avaya solutions in action.

1616-I IP Deskphone

The 1616 IP Deskphone is available in a global model. English language text on the faceplate has been removed. Contact your Avaya Account Manager or Avaya authorized partner for details.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
11/12 • LB3472-07

AVAYA

The Power of We™

Avaya 9600 Series IP Deskphones

The competitively priced, high-performance models that make up the Avaya 9600 IP Deskphone series provide you with choices for a wide range of locations in your business, from the executive suite or the manager's desk to the call center, the lobby or a home office. Integrating with Avaya Aura® and Avaya IP Office, the 9600 series IP Deskphones break new ground in what is possible in desktop communications.

Leverage the Power and Flexibility of the Enterprise IP Network

The 9600 Series Deskphones are designed to help your users be more productive and collaborative.

Productivity: Take advantage of advanced collaboration and productivity features for conference calls, instant messaging, and Web-access to applications.

Touch Screens: Speed completion of common telephony tasks by using touch screens.

Applications: See your calendar instantly on your phone (no need to boot up the PC) and get instant presence information so you know who is available.

SIP: Leverage Session Initiated Protocol (SIP) on Avaya Aura for a survivable, scalable infrastructure that delivers reliable performance and flexible growth as business needs change.[1]

GigE: Increase performance by deploying Gigabit Ethernet within your existing infrastructure.

Green: Reduce your energy costs and carbon footprint—Avaya IP Deskphones use 40–60% less energy than the competition.[2]

Productivity, Teamwork and Collaboration

Brilliant Audio Quality

Avaya 9600 Series IP Deskphones set a high standard for audio quality. Superior acoustics in the phone and handset reduce background noise and provide a broader range of audio frequencies.

The enhanced sound will delight any employee, particularly those who spend time on the phone and multi-party conference calls.

Easy to Use Interface

The superior sound quality on the Avaya 9600 Series IP Deskphones is matched by the interface.

High resolution monochrome and color displays, and touch screens on select models, combine to set a new standard in usability.

[1]Functionality will vary based on the user profile of the phone and whether it is used with the SIP or H.323 protocol. Most 9600 series phones support both.

[2]Avaya 9600 Series Voice over IP Phones: Energy Consumption Evaluation versus Cisco Unified IP Phone 7900 Series; Tolly Group, September 2010

The high resolution displays are context-sensitive, able to anticipate user intentions while making the contextual menus, prompts, and instructions easier to read.

Softkeys, on the display itself, and scrolling menus, guide users through every process, simplifying applications such as call logs and company-wide corporate directories.

Touch-screens on certain models provide a new level of simplicity in handing everyday , such as retrieving messages.

Integrated LED buttons, available on more traditional models, provide additional visual queues that enhance usability.

The Avaya 9600 Series IP Deskphone user interface is consistent with the entire Avaya one-X® portfolio of solutions including desktop and mobile endpoints.

Choose the Phone That Best Meets Your Needs

There is a 9600 Series IP Deskphone that can meet the needs of everyone in your organization. For more detailed information on each phone and its user profile, see the table on the last page.

Walkup	Everyday	Essential	Navigator
Walkup Users: Visitors such as customers or suppliers. The 9601 IP Deskphone is ideal for Walkup situations.	**Everyday Users:** Those whose phone is one of many communications tools—along with IM, email, smart phone, etc. The Avaya 9608, 9611G and 9621G IP Deskphones meet their needs.	**Essential User**: Those who rely on real-time voice communication many advanced phone applications will find this wide range of IP deskphones geared to their needs: Avaya 9611, 9621G.	**Navigators**: Navigators (such as receptionists and executive assistants) are on the phone throughout the day because they handle calls for others. The Avaya 9641G meets the needs of Navigators.

Communications via SIP

Using the industry-standard SIP protocol on the Avaya 9621G and Avaya 9641G IP Deskphones enables you to take advantage of the large, color displays on these phones to deliver touchscreen calling and easy access to a select group of features that are critical to collaboration, including Microsoft Outlook/Calendar integration, Instant Messaging, a consolidated phonebook/call/IM history, Avaya Aura® Conferencing and a web browser.

Productivity

Avaya 9600 phones make it easy to take advantage of applications, such as calendars and presence.

With SIP software, appointments can be displayed on the deskphone screen so there is no need to boot up the computer to review the day's schedule.

In addition, 9600 models display presence status of other network users by indicating on the phone contact list when someone is on a call or in "do not disturb" mode. Button modules are available with select 9600 IP deskphones to simplify call handling.

Support for Gigabit Ethernet

With Gigabit Ethernet (GigE) your business doesn't miss a beat. GigE helps ensure compatibility with your current network and leverages existing bandwidth efficiently. Meeting your requirements by handling data intensive traffic for high performance, GigE facilitates the demands of future services and applications.

Contact Center Models

Contact center versions of the 9608/9611G/9641G IP deskphones simplify access to a range of features for enhancing agent productivity, such as handling greetings, monitoring calls in the queue, updating status and quickly completing many other day-to-day tasks. The 9641G model is available with a contact center faceplate (eliminating the handset) and a dual headset adapter.

Customize Your Deskphone

Given the continuous evolution of new features and enhancements, it's natural to ask whether it makes sense to buy a new phone now—or to wait. The 9600 Series answers this question by building adaptability and flexibility into the phone itself.

Supporting your changing needs, adapter interfaces accommodate button modules and dual headset adapters to provide future flexibility and adaptability.

Screen saver and background display images can be customized as well. The modular design of the series lets you leverage your phone investment today and into the future.

The 9608 and 9611G IP Deskphones are available as a global model, in which English language text is removed from the faceplate. Available in select locations. Contact your Avaya Account Manager or Avaya Authorized Partner for details.

Save Energy with Avaya 9600 IP Deskphones

Did you know that IP phones are among the biggest energy users in an IP network, accounting for up to 80% of the energy consumption? You can save energy, reduce your carbon footprint and lower your costs by choosing Avaya 9600 Series IP Deskphones. Testing by Avaya and Tolly Consultants agree: Avaya 9600 Phones use 40–60% less energy than phones from other manufacturers. Avaya has designed energy saving capabilities into all of our 9600 phones and voluntarily adopted Energy Star Guidelines.[2]

VoIP Network Energy Consumption

Features	9601	9608	9611G	9621G	9641G	9620C	9620L	9630G	9640 / G	9650 / C	9670G
User Type	Walkup/ Everyday User	Everyday User	Essential User	Essential User	Navigator	Everyday User	Everyday User	Essential User	Essential User	Essential User & Navigator	Essential User
Wideband Audio	Yes[1]	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Headset	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Speaker Phone	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Buttons or Touch Screen	3 buttons LED	8 buttons w red green LED	8 buttons w red green LED	Touch screen	Touch screen	Red LED	Red LED	6 with red LED	6 with red LED	3 lines with red LED 8 or 16 additional buttons with red LED	Touch screen
Display Size (inches)	2.4 x 1.0	3.2 x 2.2	2.8 x 2.1	3.7 x 2.1	4.1 x 2.3	3.1 x 1.6	3.1 x 1.6	3.1 x 2.3	3.1 x 2.3	3.1 x 2.3	5.1 x 3.8
Display Type	Mono-chrome	Mono-chrome	Color	Color touch	Color touch	Color	Grey scale	Grey scale	Color	Grey scale C=color	Color touch
Adminis-trative Buttons	5	24	24	24	24	12	12	24	24	24	24
Softkeys	3	4	4	0-5	0-5	4	4	4	4	4	0-5
USB	No	No	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes
Integrated Bluetooth	No	No	No	No	Yes (H.323)	No	No	No	No	No	Yes integrated (H.323)
Gigabit Support	No	No	Integrated	Integrated	Integrated	Yes adapter	No	integrated	G = integrated	Yes adapter	Integrated
2nd Ethernet line interface	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
POE Class	1	1	1	2	2	2	1	2	2	2	2
Call Control Protocol	SIP	H.323 + SIP	H.323 + SIP	H.323 + SIP	H.323 + SIP	H.323 + SIP	H.323 + SIP	H.323 + SIP	H.323 + SIP	H.323 + SIP	H.323
Web Browser Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Colour Choice	grey	grey	grey	grey or custom	grey or custom	grey, red, yellow, blue, white, silver	grey, red, yellow, blue, white, silver	grey, red, yellow, blue, white, silver	grey, red, yellow, blue, white, silver	grey, red, yellow, blue, white, silver	grey, red, yellow, blue, white, silver
Custom Face Plate	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

[1]Acoustic fidelity differs from the other 9600 models.

Learn More

To learn more about the 9600 Series IP Deskphones contact your Avaya Account Manager, Avaya Authorized Business Partner or visit **avaya.com** for white papers, case studies and other information showcasing Avaya solutions in action.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
01/13 • LB3473-06

AVAYA
The Power of We™

Avaya Agile Communication Environment™

Delivering Communications-Enabled Business Applications and Processes Easily and Rapidly

Avaya Agile Communication Environment™ (ACE) delivers communications-enabled applications (CEA) and business processes (CEBP) rapidly and simply through a suite of packaged applications and developer toolkits. Applications that would have taken weeks or months to develop by specialist telecommunications developers can now be created easily by IT developers in a matter of days. Organizations can improve business agility and competitiveness by using Avaya ACE™ to integrate communications with people-dependent business applications and processes.

Packaged applications can provide fast return on investment through integration with business applications, such as Microsoft® Lync™, Microsoft Office, IBM® Lotus®, and Salesforce.com. Avaya ACE also targets the large IT developer community through a comprehensive set of simple but powerful Web service application programming interfaces (APIs) as well as a Foundation Toolkit for fine-tuned control of SIP call flows using Avaya Aura® Session Manager. Avaya ACE also abstracts and controls Avaya Aura® and multi-vendor network and communication services using a set of pre-written adapters. Avaya ACE appeals to any enterprise seeking to accelerate business processes through streamlined communications and collaboration. It adheres to a customer-driven agile development process that delivers new functionality rapidly based on lead customer demand.

Key Features and Benefits

Create custom applications in days instead of months

The IT developer community can build communications-enabled custom applications in a multi-vendor environment up to five times faster than before through a broad range of Web services APIs and packaged, multi-platform CTI adapters that shield programmers from the complexities of the underlying telephony infrastructure. Developers do not need expertise in telecommunications and can use any modern design environment. Organizations have seen development time fall from months to a few days for projects that involve integration of communications with business applications. See the Avaya ACE Toolkits Fact Sheet for more details.

Packaged applications deliver immediate value

Avaya ACE packaged applications provide plug-and-play functionality with immediate business benefits that drive fast return on investment. Packaged applications include Avaya ACE™ Web Browser Add-in, Microsoft Office Add-in, Microsoft Lync Integration, CRM Integration for Microsoft Dynamics and Salesforce.com, IBM Lotus Sametime Integration, Hot Desking, and Mobile Cost Optimizer. See these Fact Sheets for more detailed information.

Avoid rip-and-replace by leveraging existing communications infrastructure

Avaya ACE packaged adapters interface with a variety of multi-vendor network and communications infrastructures for abstraction and control at the business applications layer. Organizations, therefore, can leverage their existing infrastructures and eliminate costs associated with replacing equipment or handsets. Avaya ACE also acts as a single integration point so that applications do not need to be rewritten each time a piece of communications infrastructure is upgraded.

Avaya ACE™ Architecture

Avaya ACE™ is a software-based solution that sits architecturally between the business application and network communication layers. The application layer comprises the set of SOA-based web services available for business software integration. The network communications layer includes a wide range of Avaya and multi-vendor communications servers and systems. Avaya ACE integrates to the network communications layer through a range of open and vendor proprietary adapters.

Avaya ACE™ Services

Avaya ACE leverages a SOA programming style to offer communications services as separate, modular and open Web service building blocks. These Web services are built on open standards such as SOAP, with most being compliant with Parlay X specifications. Application developers use Web services to integrate communications with business applications without having to acquire in-depth telecommunications programming knowledge. Avaya ACE services include communications capabilities, such as click-to-call, audio call, video call, location and presence. Avaya ACE also offers the ability to combine Web services with logic to meet specific business needs: for example, supply management, web portals, and alerts/notifications. Clients invoke Avaya ACE enabled features through Web- based applications and processes. Avaya ACE requests from the application network are mapped to a specific Web Services Description Language (WSDL). This design enables simple and rapid integration in the customer's existing infrastructure to create communications-enabled applications and business processes.

Avaya ACE Foundation Toolkit contains the runtime services engine and software developer kit consisting of a Java API, documentation and templates, to enable the creation of sequenced applications that leverage the power of SIP and Avaya Aura Session Manager. Java developers can create custom call treatment applications (e.g. call route modification based on user presence status checks) without needing to become SIP experts. Avaya Media Server is also available to create any media services required (e.g. simple Interactive Voice Response).

Avaya ACE™ Application Integration Engine (AIE)

The Avaya ACE™ Application Integration Engine (AIE) is software that hosts Avaya ACE packaged applications and supporting software components. Avaya ACE AIE exposes Avaya ACE Web services through simple APIs built on REpresentational State Transfer (REST) design principles. Web application developers can invoke RESTful API operations to communications-enable

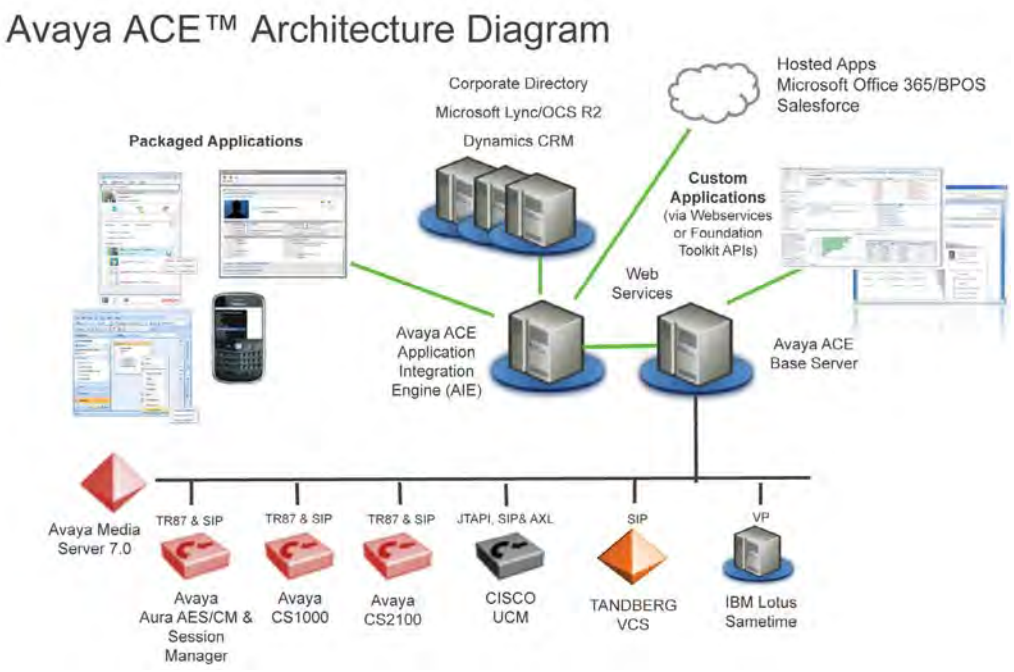
Web applications or business processes within their environment without requiring detailed knowledge of underlying communication network implementation or protocols. Avaya ACE AIE provides a single point of access for Avaya ACE packaged applications.

Supported Protocols

- Web service APIs - SOAP, REST
- Transport - HTTP, HTTPS, SSL
- JAVA APIs for Avaya Aura custom call treatment applications
- Signaling control – SIP, TR-87, JTAPI, H.323, Avaya CS 1000 MLS, IBM Virtual Places

Supported Systems

- Avaya Aura™ Communication Manager (via AES for CM 5.2.1 or via AES or Session Manager for CM 6.0)
- Avaya Communication Server 1000 R7.x
- Avaya Communication Server 2100
- Avaya Media Server 7.0
- Avaya Interactive Communications Portal (1.0.1)
- Cisco Unified Communications Manager (6.0+)
- Microsoft Lync Server 2010 Client
- Microsoft Office Communications Server 2007 R2 Communicator Client
- IBM Lotus Sametime 8.5.2 and Lotus Notes 8.5.2/8.5.1 with embedded Sametime 8.5.2
- TANDBERG Videoconferencing Server R4.0 and higher



Network Diagram

Scalability

- Up to 15,000 users per system

Resiliency

- For high availability, ACE architecture supports the option of deploying a redundant standby server. In the event of a failure condition on the active server, a failover to the standby server occurs.

Specifications

Avaya ACE™ Software Platform Requirements

Software

Avaya ACE™ Base software is supported on a Linux operating system. Avaya ACE Application Integration Engine (AIE) is supported on Windows OS.

Hardware

Avaya ACE Base and ACE Application Integration Environment (AIE) software is supported on the server platforms below. For 1+1 resiliency, two servers are required.

Learn More

For more information on how Avaya Agile Communication Environment™ can help your organization gain competitive advantage by integrating business processes with existing communications systems, contact your Avaya Account Manager or Authorized Partner and visit **www.avaya.com/ace**.

Avaya Media Server	Avaya ACE Base/AIE Servers
Minimum Requirements 2 processors 4 GB CentOS (32/64 bit) **Recommended Requirements** 2 x quad-core processors 4 GB RedHat 5.x Linux (32/64 bit)	Recommended Requirements Server type: HP Proliant DL360 or IBM 3550 Dual Quad Core 24 GB RAM 3 x 300 GB Hard Drive RAID 1, Dual Power supply, 2 NIC Cards. DVD drive ACE Base Server requires RedHat Linux OS 64 bit. Avaya ACE AIE requires Microsoft Windows 2008 R2 OS 64 Bit

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
12/11 • UC5082-05

AVAYA

The Power of We™

Avaya Aura® Call Center Elite

Today's Contact Center Challenges

How do you best deliver intelligent personalized service to your customers? Does your contact center have the ability to choose whether inbound calls go to the least busy agent, the first available agent, or the agent with the skills needed by a particular customer?

The pressure to deliver positive results that provide a competitive advantage has never been greater. To achieve that advantage, your contact center must come through on a number of fronts. In today's business climate, customer satisfaction is critical to your success. So it is vital that your contact center deliver intelligent, personalized customer service. In addition, you need to accomplish more with less. And you must be able to do all of this while enhancing the business value of each and every customer interaction.

The right solutions can make all the difference in improving the ongoing productivity and revenue potential of your contact center. They deliver cost savings by allowing you to converge your data and contact center applications upon an IP infrastructure. Effective contact center solutions provide for optimum load balancing based upon the work handling guidelines your company wishes to implement—under both call surplus and agent surplus conditions. They make the most of agent availability, skills, and experience and integrate readily with other productivity tools in a multi-vendor environment. Finally, and most importantly, superior contact center solutions lower your Total Cost of Ownership (TCO) and increase Return on Investment (ROI).

The Right Call: Avaya Call Center Elite

Avaya Call Center Elite delivers on all of these points and many more with flexible, scalable solutions designed to grow along with your business. As the market leading contact center solution, Avaya Call Center is already in use in a majority of contact centers around the globe.

Avaya Call Center Basic software is a core ingredient in Avaya Aura® Communication Manager and allows call centers to deal with many fundamental requirements including service observation and more:

- **It helps your agents handle calls more effectively** and boosts your call center's overall level of productivity—at a single site or across an enterprise.
- **It gives you the ability to choose** whether inbound calls will go to the least busy agent, the first available agent, or the agent with the skills needed by a particular customer.

Every Avaya Aura Communication Manager system includes Avaya Call Center Basic, which provides all of the ACD (Automatic Call Distributor) functionality required to operate a small, basic contact center. However, most Avaya customers opt to enhance their contact center functionality with Avaya Call Center Elite.

Avaya Call Center Elite—for every Business, Large or Small

Avaya Call Center Elite features Avaya Expert Agent Selection (skills-based routing) and the full complement of advanced Call Vectoring (conditional routing) capabilities. The Elite package includes Avaya Virtual Routing for effective load-balancing across multiple sites, and Business Advocate to dynamically match each customer to the optimal agent.

Communications for Increased Performance

Comprised of flexible and integrated applications, Avaya Call Center Elite simplifies customer management, contact center administration, results tracking, and agent training. It offers conditional (if/then) call routing that makes use of context-based inputs, coupled with versatile resource selection capabilities. In addition, Virtual Routing capabilities offer multi-location companies the ability to maximize resource utilization across all sites. And, features such as Local Preference Distribution and Locally Sourced Music and Announcements save bandwidth and/or trunking costs for businesses with distributed contact centers.

Avaya leads the contact center industry with features such as:

- •**Service Level Maximizer**, which helps meet service levels across the business by evaluating service level targets for each queue in determining call priority.
- **Powerful Vectoring** capabilities encompass a wide range of conditional routing, including variables, that provide simplification while offering more flexibility, particularly for availability/survivability via resource awareness.
  - Maximum Occupancy helps prevent "agent burnout" by helping to ensure agents are less than 100% occupied.
  - Policy Routing distributes calls to target groups of agents on a percentage basis, helping meet contractual agreements with outsourcers. This feature can help ensure fairness to agents by distributing a percentage of difficult calls, or revenue-producing calls, across the agent population.
- **Interruptible AUX Work** helps to maximize agent utilization and meet service levels by delivering calls to agents who are logged in but not working, if they are classified as interruptible. For example, an agent who is taking an on-line course could be interrupted to take a call from a priority customer.
- **Advanced Segmentation** allows for the segmentation of contacts based on data collected both internal and external to the contact center, helping improve first time call completions and enabling a low-cost screen pop for affordable CTI implementations.
- **Server and Gateway Options** provide more processing power for larger contact centers, and adds affordable contact center capabilities at small branch offices via the G430 Gateway and at mid-size offices via the G450 Gateway.

Avaya continues to offer the largest scale on a single server in the industry, which means less administrative overhead and significantly lower upgrade and maintenance costs. Avaya supports 10,000 concurrent agents on one ACD and up to 10,000 agents in a skill group, facilitating contact center consolidation.

Integrated Multichannel Contact Handling

Giving customers the ability to connect with you through the device and method of their choice is quickly becoming a key aspect in delivering a personalized customer experience. Today's tech savvy customers might prefer to send an offline email or connect with your business through a web chat session, rather than picking up the phone and speaking with a live agent. The key is to deliver a variety of ways to access your business and to ensure that interactions are managed consistently across channels.

Avaya Aura® Call Center Elite offers optional multichannel handling capabilities, providing intelligent agent assignment of email, Web chat, SMS, Instant Messaging, fax, and outbound calling in a blended queue that combines both voice and non-voice contact types. You can easily add non-voice channels without sacrificing the contact center features or reliability that you have come to expect from Avaya. And now you can also make use of the same patented (including Business Advocate) algorithms for "work" as well as "calls".

The Elite Multichannel feature pack includes simple to deploy screen-pops and customer history information so that agents have the right information at their finger tips, allowing them to deliver a more personalized customer experience.

And multichannel reporting can be consolidated with existing contact center reporting using Avaya Call Management System (CMS) to give your business a single view of contact center performance.

Avaya Business Advocate is Now an Entitlement

Avaya Business Advocate is the evolution of contact prioritization and routing. It is the only adaptive and predictive answer to every contact center's dilemma — matching the right contact to the right agent, every time.

Maximize – balance – simplify

Avaya Business Advocate is the only solution that uses patented algorithms to analyze wait times and prioritize the handling of preferred customers. Avaya Business Advocate best matches each contact with the skill sets of your agents, directing each customer to the agent who can serve them most effectively. Companies who implement Avaya Business Advocate can experience a significant reduction in caller abandonment, and customers spend less time waiting for the service they expect.

Avaya Business Advocate profoundly improves business results

Avaya Business Advocate helps you meet your business objectives with these advanced capabilities:

Achieve service goals across the enterprise

Traditional priority queuing interferes with meeting the service levels required to maximize profits and customer loyalty. Higher priority customers are handled quickly, while lower priority customers wait in queue. So as higher priority contact volume builds, service for lower priority customers plummets. That's how priority queuing can lead to longer Average Speeds of Answer and more abandoned contacts for everyone but the highest priority customers.

Avaya Business Advocate takes a different approach. As agents become available, Advocate predicts which contact will wait too long — be farthest outside its pre-defined target service level — if it's not handled next. That contact is delivered to the available agent. With Avaya Business Advocate, your high-value customers get fast service — yet no one is forgotten.

When service levels are regulated or contractual, Advocate can automatically adjust service level thresholds to bring in additional agents sooner to meet the target. Reserve agents are automatically invoked as needed to meet a service level target, helping you avoid costly penalties.

Look ahead with predictive algorithms

Avaya Business Advocate is built on Avaya patented Expected Wait Time and Predicted Wait Time algorithms. Expected Wait Time predicts how long a contact will wait for service. Advocate can then enlarge or shrink the size of the agent pool accordingly, to meet your targeted service level. Predicted Wait Time predicts when the next agent will be available when deciding the right queue to serve.

Every customer is delivered to the best agent based on customer value, agent skill, predicted total wait time and specific service goals. Your management team can gain greater control of service levels without intervening manually.

Avoid supervisor shuffle

Contact arrivals naturally ebb and flow by customer group. Before Advocate, supervisors responded to surges by monitoring traffic at their computer screens and manually reassigning agents to meet changing demand.

Avaya Business Advocate

As agents become available, Avaya Business Advocate intelligently selects their next contact based on defined business objectives. Unlike standard prioritization techniques, Avaya Business Advocate analyzes events in the contact center and uses predictive algorithms and dynamic resource allocation to preempt problems. The result is increased efficiency and improved customer satisfaction.

Like looking in a rear-view mirror, by the time supervisors respond to a surge, it's too late — the statistics they see have already occurred — and customers have already waited too long. The result is increased abandonment rates. Supervisors struggle with constantly playing traffic cop, having to remember to move agents back to their normal assignments, always busy shuffling agents instead of managing them effectively.

With Avaya Business Advocate, when expected wait times exceed your pre-defined thresholds, reserve agents are automatically and instantly activated as needed. Reserve agents are then released to their usual duties when volumes return to normal. Avaya Business Advocate simplifies contact center administration, freeing managers to focus on developing agents and building more profitable, lasting customer relationships.

Balance agent utilization fairly

Avaya Business Advocate constantly compares agent availability with call priority and skill requirements. It distributes calls fairly across available agents, taking the "whole agent" and their recent workload into account. Now you can achieve your service level objectives while balancing agent workloads, eliminating agent burnout and dissatisfaction.

Flexible, scalable, integrated

Avaya Call Center contains highly flexible applications that leverage your investments in other productivity initiatives. Avaya Call Center software provides rich, reliable functionality whether you choose to use traditional TDM, or IP-based infrastructure using H.323 or SIP.

Proven technology, proven approach

Avaya Call Center Elite takes full advantage of our recognized strength in voice heritage, application development, global services and leadership position in the industry.

And, Avaya Global Services provides a suite of options designed to give you maximum flexibility in choosing the services needed to best support the unique needs of your contact center and your business.

Agent Efficiency and Effectiveness

Avaya Call Center Elite provides a fully integrated contact management solution that empowers your agents to deliver competitive customer service, helps to lower operating costs, increase agent efficiency and effectiveness, and helps you make the most of every customer interaction. With Avaya Call Center, you have a powerful assortment of features, capabilities and applications to meet all of your contact center needs.

Learn More

To learn more about Avaya Contact Center solutions, contact your Avaya Account Manager or Avaya Authorized Partner or visit our web site at **avaya.com**, and select **Contact Centers**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

Avaya Leadership

More businesses worldwide have trusted Avaya to deliver their mission-critical contact center solution than any other vendor. Avaya has the distinction of being:

#1 in Contact Centers worldwide[1]
#1 in IP Telephony worldwide[2]
#1 in Unified Communications worldwide[3]

[1] Worldwide: Gartner, Inc, Market Share, Contact Centers Worldwide, 2011, D. Kraus, March, 2012

[2] Worldwide: Dell'Oro Group, Enterprise Telephony Report, 1Q12, June, 2012

[3] Worldwide: Dell'Oro Group, Enterprise Telephony Report, 1Q12, June, 2012

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
11/12 • GCC2353-08

AVAYA
The Power of We™

Avaya Aura® Conferencing builds on the core Avaya Aura® platform, taking advantage of its session-based technologies that make it easy to deploy collaboration applications to the right users anywhere in your organization.

Avaya Aura® Conferencing

A solution for collaboration that builds on the Avaya Aura® architecture

Avaya Aura® Conferencing extends multimodal capabilities—for audio or video conference calls, information sharing, Web collaboration and more—to tens of thousands of workers, virtually anywhere, at a fraction of the cost of other solutions.

How Avaya Aura Conferencing is Used

With Avaya Aura Conferencing, you can deliver audio or video conference and Web collaboration capabilities on a wide range of devices using Avaya interfaces:[1]

- **iPad or Windows-based PCs:** Avaya Flare® Experience turns any iPad or Windows-based desktop into a one-stop collaboration center through the easy Avaya Flare interface.
- **Windows or MacOS Web browsers:** Collaboration Agent is a Web-based tool for managing or participating in conferences and sharing information.
- **iPhone or Android devices:** Avaya Web Collaboration Agent app for Android or iPhone devices lets you view shared content and present to co-workers or customers with mobile devices.
- **Radvision Scopia® Virtual Meeting**: Radvision Scopia subscribers participate in Avaya Aura Conferencing meetings and vice versa.
- **Avaya one-X® Communicator:** Dial into a MeetMe conference.
- **Avaya 9600 series SIP-based IP desk phones:** Dial into a conference, view the roster display and use conference controls.

Once Avaya Aura Conferencing is deployed on the enterprise network, anyone can get full access to its capabilities. It can support as many as 10,000 concurrent audio, video or Web conference sessions.

Collaboration Options

MeetMe and Adhoc Conferencing:
1) Pre-planned meetings where the conference number and participant access code is distributed in advance or 2) on-the-fly conferencing where participants are brought into the call individually without dialing a pre-distributed access code.

Event/Lecture Conferencing:
Large sessions in which there are one or multiple presenters and many attendees.

[1] Avaya Aura Collaboration Agent is included with Avaya Aura Conferencing. Avaya Flare Experience for Windows and iPad devices can be purchased separately. For the Avaya Web Collaboration app, go to the iPhone app store or the Google Play App Store search for Avaya Web Collaboration, download and install.

Web Collaboration: Document, application sharing and collaboration (e.g., joint annotation) as well as conference call management.

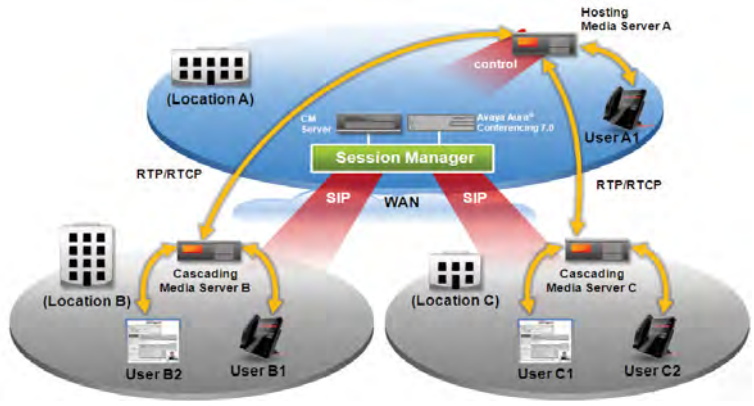
Components

Avaya Aura® Conferencing consists of the following components:

- **Application Server:** hosts the conference applications and handles SIP signaling from clients.
- **Media Server:** handles audio including voice mixing.
- **Web Collaboration Server:** provides content sharing to Avaya clients.
- **Document Conversion Server:** converts PowerPoint, PDF and other document types into formats compatible with Web collaboration.
- **Flash Media Gateway:** An optional server to provide audio and video capability to the Collaboration Agent, the Web browser interface.
- **Recording Server:** An optional server to enable the recording feature.
- **Plug-ins to Desktop Applications:** Plug-ins for desktop applications enable users to invite and join conferences from within Microsoft Outlook or Microsoft Lync via Avaya Client Applications.
- **System:** Avaya Aura Conferencing requires Avaya Aura® 6.2 (including Session Manager, System Manager and Communication Manager) or Avaya Communication Server 1000 Release 7.5 or 7.6 (including Session Manager 6.2 and System Manager 6.2.)

Deployment Scenarios

Single Server	All solution components on a single server.
Single Campus	Avaya Aura Conferencing located in a central data center; media servers on separate servers.
Multiple Campus	Avaya Aura Conferencing split between active/standby cores in two geographically separate data centers using an L2 VLAN.
Multiple Avaya Aura Conferencing Deployment	Large deployment where Avaya Aura Conferencing is on multiple application servers.
Endpoints:	Windows PC and iPad devices (using Avaya Flare® Experience); Windows or MAC OS desktops using Web browsers; iPhone and Android devices (using Avaya Web Collaboration App); 9600-series IP Deskphones for SIP (roster display and conferencing controls) and H.323 (audio only); Avaya one-X® Communicator.



Media Cascading

Locally deployed media servers send one outgoing media stream for all remote users at a media server location. This concept is referred to as cascading and can reduce the number of media streams that need to travel across the WAN, leading to significantly reduced WAN costs.

Performance Monitoring

The Web-based Avaya Aura Conference Monitor provides comprehensive monitoring of conferences and sessions:

- Monitors bandwidth usage in real time and identifies trends for locations, app servers, media server sessions and system auditing.
- Displays current and past Key Performance Indicators (KPIs).
- Logs sessions and bandwidth usages, and provides daily, weekly and monthly usage reports.

Configuration and Capacities

Avaya Aura® Conferencing can be configured to deliver varying levels of capacity and redundancy:

	Co-resident Server	Standalone
Maximum Provisioned Users	5,000 users	150,000 users
Maximum Number of Sessions	500 sessions	10,000 sessions with (audio & video) of which up to 7,500 can also have Web sessions or as many as 15,000 for audio only sessions
Maximum Conference Size	250 participants (MeetMe or Adhoc conferences)	250 participants (MeetMe or Adhoc conferences) 2,000 participants (Event* conferences)
Maximum Number of Conferences	250 (2 party conferences) to 2 (250 party conferences)	5,000 (2 party conferences) to 40 (250 party conferences)
*Event conferences have unique characteristics to accommodate thousands of participants such as lecture mode, entry and exit tones disabled, and limited roster view.		

*Note: While each Web session requires an audio or video session, you can have an audio or video session without a Web session. In a co-resident configuration, you can have a maximum of 500 audio or video sessions (with no Web sessions) or a maximum of 250 Web sessions, 250 video sessions or 250 audio sessions. In a large or large simplex configuration, you can have a maximum of 10,000 audio sessions (with no Web sessions) or a maximum of 7,500 Web sessions, 7,500 video sessions or 7,500 audio sessions.

Avaya Flare Experience on Windows PC (or iPad devices)

Collaboration Agent on Web browsers

Avaya Web Collaboration Agent app for iPhone or Android devices

Avaya Aura® Collaboration Agent Features	
Annotate	Annotate shared content, applications and screens; add text, lines and stamps to clarify or expand the content.
Audio and Video	Participate in an audio or video conference. Users do not need to dial into the conference.
Attendance snapshot	A list of participants at a specific time.
Browse a presentation/ document as a participant	Browse a shared document independently of the moderator or presenter.
Continuation	Conference bridge remains active after the moderator exits.
Documents that can be uploaded	Microsoft PowerPoint, Microsoft Word, Adobe Acrobat PDFs, plain text, jpegs and pngs.
Drop a participant	Moderator can drop participants from a conference.
Entry and exit tones	Lets you know someone has entered or exited a conference.
Fast start	Allow conferences to start before a moderator logs on.
Library	Allows moderators to upload documents to a shared area on the server. This enables faster access and enables participants to view independently of presentation.
List of other participants	See who else is on the conference bridge.
Lock	Prevent new participants from joining the conference.
Meeting reports	A report automatically generated after each session that includes the meeting minutes and a list of the sharing events that took place in the collaboration session.
Minutes	Users can record and edit meeting minutes for later review, including notes, keywords, action items, and questions.
Mute media	Mute audio participation.
Navigate documents	Browse shared documents.
Questions	Participants can ask questions
Raised hands	A feature participants can activate to attract the moderator's attention.
Recording and Playback	Recording captures audio, shared data and conference events such as messages, participants joining or leaving, and interactions with each other.
Roles	Moderator, participant, presenter, guest.
Send a screenshot	Send a screenshot of the current screen to all participants as a message.
Send messages during a conference	Send and keep track of messages sent during the conference.
Share	Applications, desktop, documents, whiteboard.
Silence participants	All participants except the moderator and presenters are muted and cannot unmute themselves.

Learn More

To learn more about Avaya Aura Conferencing, talk to your Avaya Account Manager or Authorized Partner or visit us at **http://www.avaya.com/**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
05/13 • UC4533-08

AVAYA

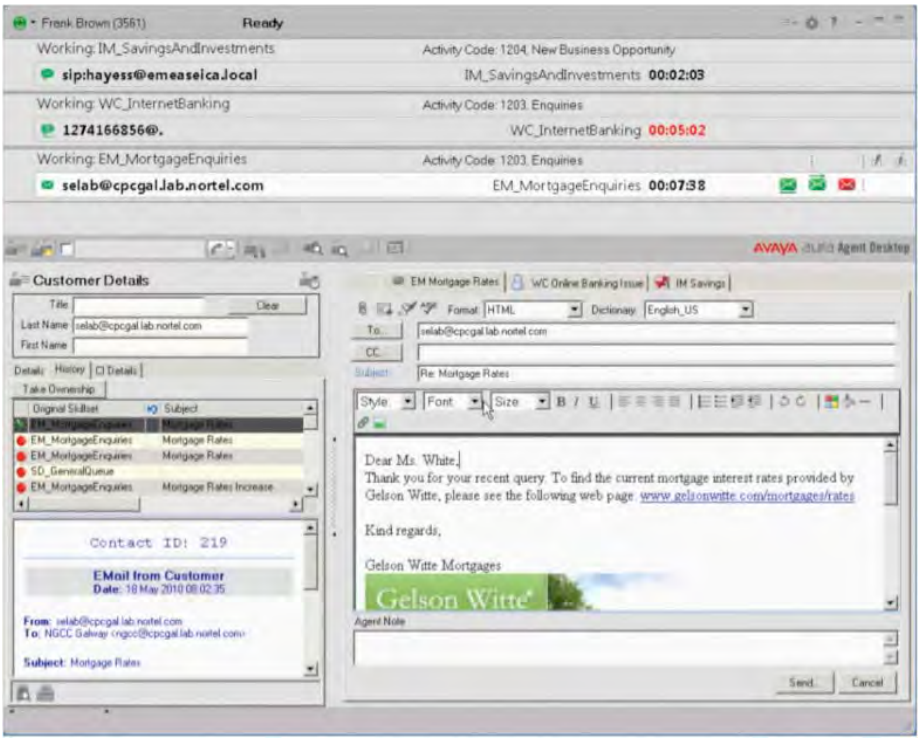
The Power of We™

Avaya Aura® Contact Center 6.3

Avaya Aura® Contact Center 6.3 is a context-sensitive, collaborative, voice and multichannel customer contact solution that allows enterprises to anticipate, automate and accelerate customer interactions. Avaya Aura Contact Center intelligently routes up to six simultaneous multichannel contacts to the most appropriate resource through a unified agent interface. By creating a complete view of the customer and the context of their interaction, Avaya Aura Contact Center allows enterprises and organizations to manage the customer experience in a way that consistently delivers a superior level of engagement. Avaya Aura Contact Center allows users to proactively reach out to customers, combines historic and real-time contextual customer information to help improve the quality of interactions, optimizes agent utilization and productivity, and enhances supervisor performance to deliver superior customer experience and drive sustainable business growth.

A software only application that runs on commercial off-the-shelf servers, Avaya Aura Contact Center is the ideal solution for customers who need the flexibility of an open, reliable multichannel solution. The following flexible deployment options are available:

Avaya Aura Contact Center	Description
Complete	The Complete solution manages all contact types (inbound/outbound voice, email, web chat, SMS, fax, IM, Social Media, etc.) as a universal queue and offers integrated real-time and historical reporting. The AACC-M midmarket solution utilizes the Avaya Aura Contact Center Complete deployment model.
Standalone	The Standalone solution is deployed to manage only non-voice multichannel contact types (email, web chat, SMS, fax, etc.). No integration or inter-operation with a “voice call center” solution is required.



Avaya Aura Contact Center supports next generation, SIP based deployment options on Avaya Aura Communications Manager and Avaya Aura Session Manager, as well as Communications Server 1000 integration through the Applications Messaging Link (AML).

Features and Benefits

Avaya Aura Contact Center 6.3 includes many new and enhanced capabilities that help enterprises and organizations improve customer satisfaction, increase revenues and profitability, and enhance agent and supervisor productivity while reducing CAPEX and OPEX costs. Avaya Aura Contact Center addresses the needs of all stakeholders including the line-of-business manager, contact center manager, IS/IT manager and agents. Key capabilities include:

Agent Efficiency

- **Unified Agent Desktop:** Avaya Aura® Agent Desktop allows agents to simultaneously handle multiple contacts of various media types. This single desktop interface can be used for both Elite voice interactions and multichannel interactions delivered from Avaya Aura Contact Center, or it can be used for both voice and multichannel in complete deployments. The email editor, auto suggest, auto response, web push and context sensitive handling capabilities substantially enhance agent productivity while minimizing training requirements.
- **Agent quality, motivation and performance:** The ability to offer flexible, at-home teleworking arrangements allows contact center managers to hire the best agents, motivate them, improve performance and reduce agent turnover. Avaya Aura® Offsite Agent is an optional add-on feature that allows agents to utilize their home or mobile phone to accept customer interactions from Avaya Aura Contact Center.
- **UC desktop integration:** Integration with Avaya Aura® Session Manager delivers powerful UC capabilities directly to the agent desktop, helping increase agent productivity. Based on the context of an interaction, expert/buddy lists are displayed on the desktop for expert consultation using instant messaging (IM). Both agent and expert see the inquiry context, helping resolve customer interactions faster and improve first contact resolution.
- **Proactive interaction:** Outbound dialing enables enterprises and organizations to utilize their agents for revenue generating activities. The ability to reach out to customers with timely information increases up-sell opportunities, resulting in higher revenues and profitability. It also helps shape the type and number of inbound contacts.

Supervisor and Administrative Effectiveness

- **Orchestration Designer:** The drag and drop menus in the graphical user interface of Orchestration Designer makes it easier and more efficient to develop routing scripts with fewer errors, removing the need for specialized resources. More importantly, this workflow design tool is utilized by both Avaya Aura® Contact Center and the Avaya Aura®

Experience Portal, making it easier and faster to modify work assignment requirements for automated and assisted care environments.

- **Simplified Administration:** Common, web-based administration for contact center supervisors and managers helps reduce configuration complexity, eliminate duplication, reduce errors, and lower implementation time and cost. It also allows contact center managers to maintain multiple virtual contact center nodes over the web from a single point.
- **Unified Reporting:** On-board reporting with standard or customized, tabular and graphical, historical and real-time displays with dynamic filtering provide easy-to-read information on Key Performance Indicators (KPIs), contact summaries and consolidated reports. This reduces the time spent analyzing data and allows more time for coaching agents, helping improve both agent and supervisor productivity. When Elite is integrated with Avaya Aura Contact Center as a multichannel complement, Avaya IQ provides comprehensive consolidated reporting on Elite voice and Avaya Aura Contact Center multichannel interactions.

Architecture, Scalability, Security & Reliability

- **Open standards based solution:** The Avaya Aura Contact Center SIP-based architecture makes it easy to develop, implement and maintain screen pops reducing time, effort and cost required to launch new capabilities that further enrich the context and information presented to agents. Standards-based Web Services simplify the integration between the contact center and back office applications allowing enterprises and organizations to quickly and easily adapt to changes. For example, the Avaya Open Queue Web Service allows any media type to be routed into the contact center, including social media such as Twitter and Facebook. Additionally, a Web Service integration is provided for quick and easy integration with Salesforce.com, as well as other CRM systems. The SIP based solution simplifies the architecture, and reduces the need for expensive and time consuming CTI deployments.
- **Virtual contact center that scales:** Avaya Aura® Contact Center is appropriate for a wide range of deployments from single-server to midsize and large enterprise deployments. Multi-site, virtual contact center deployments are supported for up to 30 nodes creating an environment where skills are utilized across a network to create greater efficiency and allow businesses to draw from a wider talent pool.

Configuration	Communications Platform	Voice Only Agents	Multichannel Agents (includes voice)
Avaya Aura Contact Center Complete	Avaya Aura Solution for Midsize Enterprise	500	500
	Avaya Aura Communication Manager with Session Manager	3000	3000
	Avaya Communication Server 1000 (AML)	5000	3000
Avaya Aura Contact Center Complete – CEM Midsize Enterprise Solution (AACC-M)	Avaya Aura Communication Manager with Session Manager	400	400
	Avaya Communication Server 1000 (AML)	400	400
Avaya Aura Contact Center Standalone	No UC Platform	0	3000

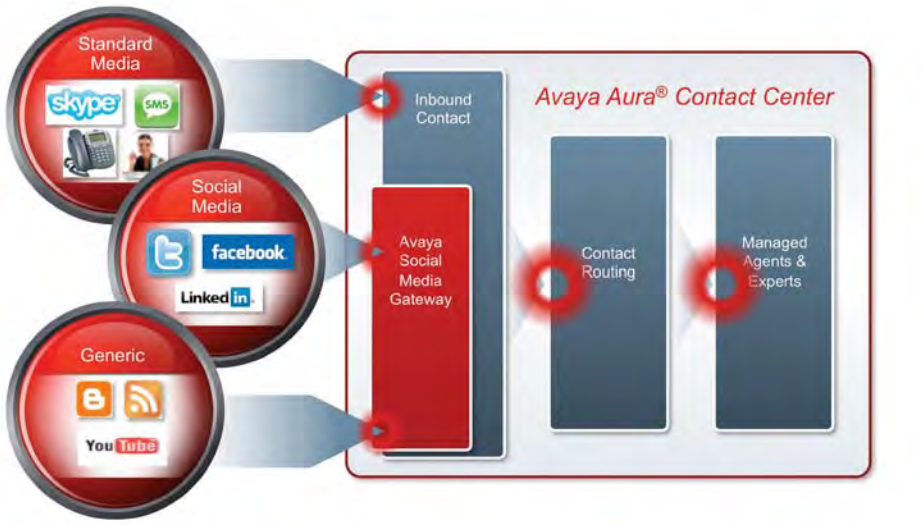
- **Enhanced security and authentication:** Enhancements to security include single sign-on and authentication with Microsoft Active Directory reducing repetitive authentication.
- **Reliability:** High availability options include geographic and campus. Real-time shadowing with automatic failover options for all core application components: call processing, multichannel, agent desktop, administration and CTI, with zero-touch recovery helps maintain seamless uninterrupted operation.
- **Virtualization:** Support for both Microsoft Hyper V and VMware virtualization environments facilitates server consolidation and deployment flexibility saving CAPEX and OPEX. Additionally, Avaya Aura Contact Center supports desktop virtualization within Citrix environments.
- **Rich third-party developer ecosystem:** SIP, SOA and Web services interfaces encourage a rich ecosystem of third-party application developers to develop and integrate applications to meet the specific needs of enterprises.

Integrated Contact Center Suite

- **Avaya Aura® Call Center Elite:** Avaya Aura Call Center Elite customers can add an affordable multi-channel solution with Avaya Aura Contact Center multichannel complement. While preserving investments in Elite voice-based call center capabilities, businesses can add intelligent routing of email, web chat, SMS text, IM, fax and scanned documents for agent handling.
- **Avaya Aura® Experience Portal:** Avaya Aura Experience Portal can be used as an IVR front end to Avaya Aura® Contact Center. Experience Portal is a software-based platform that provides intelligent agent selection with segmentation and offers advanced wait treatments. Orchestration Designer, an advanced development environment included in Avaya Aura Experience Portal, helps speed process and workflow development.
- **Avaya Aura® Workforce Optimization (WFO):** Avaya Aura Workforce Optimization is a unified suite of applications for analyzing and optimizing customer interactions within the contact center across every touch point. The Avaya Aura WFO solution provides companies with the information they need to make intelligent decisions about agents and processes, and improve the quality of customer service they deliver.
- **Avaya Contact Center Control Manager:** Avaya Contact Center Control Manager provides centralized operational administration exclusively for Avaya Contact Center Applications (i.e. Avaya Aura Contact Center, Call Center Elite, etc.). This allows one-time definition and on-going management of: agents, skills, vector directory number, extensions, call flows, integrated voice response working hours, dynamic prompts and menu content.

Customer Satisfaction

- **Increased access options:** Intelligent assignment of up to six multichannel contacts including voice, IM, Web Chat, SMS text, email, voice mail, fax, scanned documents, and social media through an open, universal queue offers customers numerous contact options. The multichannel capability helps enterprises and organizations promote the concept of 'always-open-for-business', increasing customer options and ease of access.
- **Context preservation:** Information such as the customer's immediate prior activity, historical data and social attributes help anticipate user needs and facilitates higher rates of First Contact Resolution (FCR), and enhances contact center efficiency. Anchoring the customer contact on the SIP Avaya Media Server helps ensure that agents, experts and supervisors have access to information about the customer's context. Customer context information will be used by the work assignment engine in the future to fine tune the match between incoming customer interactions or work and available contact center and enterprise resources.
- **Social media integration:** Ease of integration with social networks provides options for business managers to nurture, build and promote brand image, and equally importantly, resolve issues before they balloon out of proportion. Avaya Aura Contact Center integrates with Avaya Social Media Manager which analyzes and categorizes Twitter and Facebook contacts so that they can be prioritized and routed into the contact center for agent handling.



The Value for You

Avaya's vision for next generation customer care is about delivering superior Experience Management. Increased competition, changing demographics, the growth of new communications media, and more demanding customers, require businesses to consistently deliver higher-value customer service and effectively manage their customer's experience.

Context is critical to Experience Management. Knowledge of a customer's most recent activity, past history, purchase behavior, and preferences provides a wealth of information and a rich context for the interaction. Businesses that harness this context to deliver superior experience differentiate themselves from their competitors.

Avaya Aura® Contact Center is a standards-based customer contact solution that allows enterprises and organizations to:

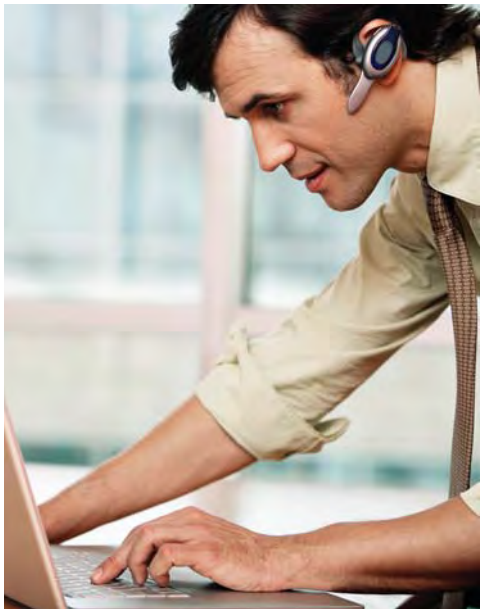
- Offer more customer access options to improve satisfaction and loyalty
- Improve agent utilization and productivity through multiple contact handling and agent efficiency features
- Use real-time and historical customer data to frame the appropriate context for each and every interaction and boost first contact resolution
- Equip managers to administer the contact center, analyze performance through unified reporting, learn and apply best-practices to continuously improve the agility of the contact center
- Manage the customer's experience, both assisted and automated, to quickly solve customer issues and increase profitable revenue opportunities

- Evolve from queuing and routing to Resource Selection and Work Assignment
- Use SIP, SOA and Web services to flexibly connect and open the enterprise, eliminate cost and complexity and facilitate integration to business processes and social media
- Provide migration paths to protect, extend and grow investments, optimize cost and improve performance
- Ease deployment of reliable, resilient contact centers with uninterrupted operation

Enterprises and organizations can achieve these benefits while preserving existing infrastructure investments and enhancing flexibility, tightening security, augmenting service availability and saving CAPEX and OPEX.

Learn More

For more information about Avaya Aura Contact Center contact your Avaya Account Manager, Avaya Authorized Partner or visit us at **avaya.com**.



Avaya Aura® Contact Center Supported Capabilities at a Glance	
Agent Desktop	Avaya Aura Agent Desktop
Multichannel	Fully blended support for voice, email, IM, Web Chat, Fax, SMS and social media contact types.
Multiple call handling	Up to 6 simultaneous contacts can be handled by an agent (One voice call and up to five additional non-voice contacts).
Offsite Agent	Avaya Aura® Offsite Agent solution allows contact center agents to work from any remote location whether that be a home or via a mobile phone.
Virtual Contact Center	Supports networked skills based assignment selection for voice and CTI data across up to 30 nodes in a single Virtual Contact Center.
Reporting	Granular and customizable real-time and historical reporting for voice and multichannel.
Scripting/Workflow	Built-in Graphical Orchestration Designer tool. Legacy text-based scripting fully supported and can be imported into Orchestration Designer.
Self Service	Avaya Aura® Experience Portal, Voice Portal, MPS 500 or MPS 1000 3.0, 3.5
Outbound Campaigns	Integrated preview and progressive outbound dialing with integrated campaigns manager or with the Proactive Contact solution.
Workforce Optimization	Avaya Aura® Workforce Optimization is fully integrated and does not require the separate configuration and licensing of DMCC, TSAPI and CTI licenses.

Avaya Aura Contact Center 6.3 Requirements at a Glance	
UC Platform	• Avaya Aura® Communication Manager • Avaya Aura® Solution for Midsize Enterprise • Avaya® Communication Server 1000 (AML)
Operating system	• Windows Server 2008 R2, 64 bit Standard and Enterprise Editions, • VMware vSphere platform with ESXi hypervisor • Microsoft Hyper-V
Client	Windows Vista Business SP1 or later • Windows Vista Enterprise SP1 or later • Windows 7 • Windows XP Professional Service Pack 2 or later
Server Hardware	Customer supplied. Refer to the Avaya Aura Contact Center 6.3 Planning & Engineering guide for further information: **https://downloads.avaya.com/css/P8/documents/100167786**
Supported Agent Desktop and Phones	• Avaya Aura® Agent Desktop • Avaya Aura® Communication Manager and Avaya Aura® Solution for Midsize Enterprise platform phones: H.323 phones: Avaya 1600 Series IP deskphones, Avaya 4600 Series IP deskphones, Avaya 9600 Series IP deskphones, Avaya 96x1 Series IP deskphones, Avaya one-X® Communicator Release 5.2 or later, Avaya Aura® Agent Desktop embedded softphone. Digital phones: Avaya 24xx Series deskphones, Avaya 64xx Series deskphones. SIP phones: Avaya 96x0 Series IP deskphones • Avaya Communication Server 1000 phones: Digital phones: Avaya 39xx Digital Deskphone, Avaya 3904 Digital Deskphone, Avaya 3905 Digital Deskphone. IP phones and Softphones: Avaya 1120E IP Deskphone, Avaya 1140E IP Deskphone, Avaya 1150E IP Deskphone, Avaya 1200 Series IP Deskphone, Avaya 2002 IP Deskphone, Avaya 2004 IP Deskphone, Avaya 2050 IP Softphone

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
05/13 • GCC4745-03

Avaya Professional Services

Avaya Professional Services

Presence Services Implementation

Company Overview

Avaya is a global leader in enterprise communications systems. The company provides unified communications, contact centers and related Services directly and through its Business Partners to leading businesses and organizations around the world. Enterprises of all sizes depend on Avaya for state-of-the-art communications that improve efficiency, collaboration, Customer service and competitiveness.

Avaya Professional Services (APS) offers comprehensive consulting, design, implementation and deployment for business solutions in support of Customer's business objectives. APS will work with you to determine the service delivery options which best meet your needs. For more information, please visit www.avaya.com.

Services Summary

Avaya Aura extends and enhances Avaya's long standing Communication Manager product with new capabilities and a revolutionary new SIP-based architecture that truly heralds a new era of business communications. The first step to realizing the advantages of a SIP architecture is to clearly identify the distinct and quantifiable elements of a SIP transformation and develop the technical plan to realize those benefits.

This Avaya Professional Services offer is intended to provide a brief overview of the services related to the integration of the Intelligent Presence Services system within the Enterprise network.

Value

End Users: This service provides the Customer with the following:

- The tools, expertise, and resources needed to install and integrate their Presence Services system to the Enterprise network.
- Receive the experience, knowledge, and capabilities of Avaya Implementation and Professional Service organizations to help ensure successful high-quality implementations.

Channel Partners: This offer provides our partners with the following:

- The flexibility to select one service or an entire suite of services to match their Customer's particular needs and their technical expertise.

Deployment Options

Implementation Services Bundles

The offer is structured based on services bundles plus add-on services. The tables below depict what's included or optionally available for each bundle.

1) **Basic:** not applicable

2) **Standard:** not applicable

3) **All Inclusive:** Within the All Inclusive service option, APS will provide hardware installation, and installation and configuration of the *Avaya Aura™ Presence Services* software, as well as Project Management.

Avaya Inc. – Proprietary.
Use pursuant to the terms of your signed agreement or Avaya policy.

Avaya Professional Services

APS Service Bundles	Basic	Standard	All Inclusive
Bundle Activities	Software Work	Software Work + Hardware Installation	Software Work + Hardware Installation + Project Management
Project Management			
Remote Project Management	optional		●
On-site Project Management	optional		optional
Remote Project Scheduling	●	●	
Planning and Design Stage			
Data Gathering	●	●	●
Installation Stage			
Hardware Installation		●	●

Notes:

1) A dot (●) means the service is included in the bundle.
2) "Optional" means service can be purchased for an additional fee.
3) Blank means the service is not available with this bundle.

Availability

This offer is available *globally* through Avaya or Avaya Authorized Business Partner. Details may vary by region.

Why Avaya Professional Services

Avaya Professional Services turns your real-time communications solutions into a business improvement strategy for employee, supplier, and vendor interactions. Customers can leverage the capabilities of Avaya Professional Services at any stage of their solution lifecycle. Our portfolio is designed to allow Customers to engage us for a specific project need or as an end-to-end offering for complete oversight.

Avaya Professional Services helps deliver business productivity improvement that meets Customer challenges and drives their business forward, so they can focus on growing your business. We focus on solving Customer challenges such as reducing Total Cost of Ownership, mitigating risk and accelerating a Customer's business.

Whether a Customer chooses to work with one of our trusted partners or directly with us, you have access to the deep expertise of the Avaya team. Our extensive experience and horizontal, vertical, and technology expertise enable us to bring industry best practices to a Customer's organization and drive measurable business results. We have a global network of over 1,500 consultants, network architects, and project managers with an average 15 years of industry experience each and industry certifications from multiple vendors. Executing over 2,000 projects every month globally, our consultants' range of strategic, technical and management skills can apply across a Customer's communications network and our global resourcing model ensures the right specialist is deployed for every Customer's project regardless of geography.

Avaya Inc. – Proprietary.
Use pursuant to the terms of your signed agreement or Avaya policy.

Avaya Professional Services

For More Information

This Offer Sheet and Service Description are not to be used for contractual purposes. To learn more about CBA Professional Services and how it can add value to your business, or other award-winning solutions and Avaya Global Services, talk to your Avaya Client Executive or Authorized Business Partner. Also, visit us at www.avaya.com.

Direct Customers - For information regarding Avaya Products and Services, or to begin your quote today please contact your Account Manager or Authorized Business Partner.

Sales Teams - For information regarding the service offerings included in the bundles, please contact the Support Hotline at 866-Avaya-66 (US) or 00-800-0235-4321(EMEA). When you are prompted to identify the solution you require information about, please say "APS Service Bundle".

If you need assistance understanding how to correctly select the bundles, contact the Design Central Team at 888-297-4700 (US), 720-444-5800 (Americas International), 31-70-414-8099 (EMEA) or 65-6871-2693 (APAC). In this case, when prompted to identify the help you seek, please say either "Configuration" or "Design".

To begin your services quote today, follow the steps outlined below that best suit your need:

1. For Avaya Sales Team requests: Go to Avaya Enterprise Portal, Tools, Sales Tools, Salesforce.com.

2. For Distributors and Partners whom have a contract agreement with Avaya to buy services direct, requests go to PRM at www.avaya.com/prmportal.

3. For all other Authorized Business Partner requests, work through your Distributor.

4. Authorized Business Partners may quote/order a-la-carte services by visiting: http://portal.avaya.com/ptlWeb/spCP/CS20061031154348300 59/C20092512724292001/SN2009251340554 17094/SN200925134055417094.

For additional questions or support regarding this offer, please email us at APSOffers@avaya.com.

Avaya Inc. – Proprietary.
Use pursuant to the terms of your signed agreement or Avaya policy.

AVAYA
The Power of We™

The Avaya Aura® Platform: Taking the Next Step

Is now the time to implement the latest Avaya Aura® capabilities on your network?

Table of Contents

Introduction 1
A Closer Look at the Avaya Aura® Platform 1
Why Now Is the Time for Unified Communications 2
Evolving UC&C Starts with Voice 3
The SIP Imperative 4
SIP Without Compromise 5
Scalability and Quality of Service 6
Virtualization 7
Mobility and BYOD 7
Collaboration 9
Customer Experience 9
Resiliency 11
Network Monitoring and Energy Efficiency 12
Simplifying the Transition 13
Is Now the Time to Upgrade? 14
Learn More 14

Introduction

There are so many factors reshaping enterprise networks today, from mobility and consumerization to video collaboration, network security, SIP-based applications and more.

What your enterprise does to adapt to these changes will have an impact far beyond your network. It's ultimately going to factor into how competitive you are. And how agile. How effectively you can attract and retain the best talent. Maintain a consistent brand image across channels. Deliver customer service that is truly differentiating.

Since its introduction in 2009, the Avaya Aura® platform has been repeatedly singled out as a pacesetter in unified communications and collaboration (UC&C).[1] That's in no small part due to the fact that each new Avaya Aura release delivers the incremental capabilities that innovation demands.

A Closer Look at the Avaya Aura® Platform

For companies that are already using Avaya communications solutions—but have not enhanced or upgraded that initial investment—the changes in enterprise networks combined with the significant advances in the Avaya Aura® platform offer an opportunity:

Is now the time to take a closer look at the ways the Avaya Aura® solution can take your enterprise network to the next level? Is now the time to upgrade to the latest release?

Different enterprises will answer these questions in different ways. The goal of this white paper is to help you answer them for your enterprise.

1. Avaya Positioned as a Leader in Analyst Firm's Magic Quadrant for Unified Communications, http://www.avaya.com/usa/about-avaya/newsroom/news-releases/2012/pr-120917?mobile=true

Enhancements to the Avaya Aura® Platform

Avaya has introduced significant enhancements to the Avaya Aura® platform to meet today's challenges:

- **Integration:** Integrated capabilities for video, presence, mobility and everyday user productivity
- **Collaboration Interfaces:** Major breakthroughs in user interfaces, such as Avaya Flare® Experience and Avaya one-X® software and easy-to-use, browser-based applications like Avaya Aura® Conferencing
- **Video:** Simplified "click to call" personal video conferencing solutions (e.g., Scopia® solutions from Radvision, an Avaya company; Avaya Flare® Experience) while also providing granular network bandwidth management to help ensure effective allocation of network resources
- **Scalability:** Combining SIP scalability with reliability capabilities unrivaled in the enterprise market
- **Virtualization:** Deploying the Avaya Aura® solution in a VMware environment, simplifying the move to the latest capabilities while also enhancing customer flexibility

Why Now Is the Time for Unified Communications

The growing demand for unified communications and collaboration (UC&C) solutions is a key part of the overall rebound in technology spending since the 2008-10 financial turndown.

According to the technology research firm IDG, UC&C solutions are "poised to become ubiquitous."[2] In a survey of over 1,000 IT and business professionals, IDG found 60% of them planning to implement or upgrade existing UC&C solutions within the next three years. Another analyst projects an 11.2% growth rate in enterprise investments in UC&C through 2016.[3]

Mobility is a huge factor in the growth of UC&C: the growing presence of smartphones, tablets and other mobile devices in the enterprise took place despite the historically challenging economic environment.

But other factors are also playing a major role:

- **Business is virtual:** The four walls of the enterprise no longer come even close to defining it. Your employees, partners, suppliers and customers can be anywhere. How easy you make it to connect and collaborate increasingly defines who and what you are as a business.
- **Generational shift:** The exit of the Baby Boomers and the rise of the Millennials has led to a growing number of people who expect the latest mobile and social networking solutions.
- **Global competition:** New marketplace entrants in Asia and Latin America, unencumbered by legacy systems, take UC&C for granted.
- **Being green:** UC&C solutions have demonstrated proven performance in reducing commuting and business travel.
- **Video:** Video has moved out of dedicated facilities and across the enterprise through casual, cost-effective use on the desktop and on the go, delivering on an expectation that has been talked about for decades.

As a result of these and other factors, while enterprises may differ in the timing of their move to UC&C (according to IDG, the larger the organization, the faster the move), it's no longer a question of "if" but "when."

2. IDG 2012 Unified Communications & Collaboration Survey, www.idg.com
3. No Jitter, UC Market: What's Driving Growth?, http://www.nojitter.com/post/240005420/uc-market-whats-driving-growth

SIP: The Path to the Future that Delivers Benefits Now

The Avaya Aura® platform is specifically designed to provide enterprises with a direct path to the future of UC&C.

Just as significant, the Avaya Aura® solution makes it possible to streamline and rationalize existing architectures—knitting together diverse architectures, creating enterprise-wide dial plans, supporting the rollout of new features anywhere in their network and achieving significant cost savings in network access and ongoing management.

The common denominator that makes all of this possible is the innovative way the Avaya Aura® solution implements a SIP-based architecture.

Evolving UC&C Starts with Voice

Interestingly, the IDG survey found that as companies evolve their UC&C systems, they're more likely to start with voice- or telephone-centric systems. This reflects the fact that voice solutions have already addressed many of the key performance and reliability issues that must be in place if true UC&C solutions are going to gain a secure role in the enterprise.

The growth of UC&C also marks the continued evolution of the enterprise network from a data pipe to an "applications-aware" resource that impacts productivity and performance. "The network can no longer be relegated to "just a pipe" status with regard to IT strategy," says analyst Zeus Kerravala. "If increased application awareness is not brought to the network, it could hinder successful network computing strategy."[4]

4. The Rise of the Network Has Made it Crucial to User Experience, Zeus Kerravala, January 2012,

SIP Benefits to Users

The SIP implementation in the Avaya Aura® platform enables connection and feature consistency across endpoints. For users this means:

- Getting the same features on their mobile devices as they have on the desktop
- Enjoying a wide range of opportunities for application-communication integration across service and application providers
- Taking advantage of the additional security that exceeds what's possible on more traditional protocols like H.323

The SIP Imperative

The transition that is now taking place in enterprise communications is unfolding across several dimensions:

- Traditional PBXs to IP/SIP solutions
- Single-mode communications to unified communications
- Changing modalities: mobility, collaboration, Bring Your Own Device (BYOD), the cloud

Enterprises that successfully navigate these transitions have the opportunity to see a dramatic increase in performance and agility. A foundation based on SIP is critical to all of these transitions.

The Avaya Aura® platform, through Avaya Aura® Session Manager, delivers a true SIP-based unified communications core. Operating on a SIP-based core—as opposed to our competitors' networks of SIP-based switches connected in tandem—makes it possible to deliver advanced voice, video and text-based collaboration capabilities to users regardless of their location, and regardless of the specific switch they are connected to.

Avaya Aura® Session Manager builds on a customer's existing equipment and applications, connecting gateways, service providers, SIP-enabled adjuncts, and SIP telephones. It can also connect to third-party PBXs and small key PBX systems within branch offices. Session Manager combines its strengths with Avaya Aura® Communication Manager, which can be deployed as a SIP-only Feature Server or as an Evolution Server, serving both SIP and non-SIP endpoints with rich UC&C features and capabilities.

Network Performance

Avaya Aura® Session Manager scales to support up to 350,000 busy hour call completions (BHCC) per Session Manager and up to 3.5 million BHCC across an enterprise network. This scale and performance is driven by the underlying architecture of the Avaya Aura® platform, which delivers more efficient server utilization and more economical communication services.

The scale and performance muscle means that even in its smallest configuration, the Avaya Aura® platform provides the best technical solution for maintaining network integrity and communication functionality.

SIP Without Compromise

A key reason for the widespread acceptance of SIP is the way it radically simplifies communication between people, places, devices, applications and services.

But one area of resistance to SIP has been concern over "giving up" any of the hundreds of communications features that were once common on traditional Avaya communications switches using TDM or the H.323 protocol.

At its introduction, the Avaya Aura® solution provided support for the vast majority of the hundreds of traditional calling capabilities enterprises rely on most. Since then, each upgrade of the Avaya Aura® platform has included support for capabilities that enhance its day-to-day performance in measureable ways. For example, features such as Enhanced Call Forwarding, Enhanced Call Pickup Alerting, Team Button, Group Paging, Internal Calling Party Number Block, Call Park/Un-Park, Third-party Message Waiting Indication and Transfer to Voicemail have all been recently added to the list of supported SIP call features—a list that now includes over 90% of the call features available on traditional IP Phones.

These and other capabilities are supported across SIP-based clients regardless of location or the specific switch where the user may be located.

Other examples of Avaya's commitment to SIP without compromise include:

- **DTMF transparency:** Avaya has taken the steps needed to deliver reliable DTMF signaling functionality needed for messaging, conferencing and other applications in mixed SIP and H.323 environments.
- **SIP call and connection preservation:** This allows the reconstruction of stable calls and the ability to manipulate calls in queue in the event of a network or Session Manager failure.
- **Emergency numbers:** Up to 10 emergency numbers can be administered per location. This flexibility provides adaptation for local requirements, including countries with more than one number, and allows the integration of the Euro-wide 112 number to be employed alongside specific country numbers.

Reliability Drives Scalability

The Avaya Aura® platform supports multiple registrations of SIP devices: up to three different Session Manager instances. While this is designed to ensure that customers can engineer their networks for the level of reliability they desire, it almost inevitably increases scalability requirements. Regardless of the configuration, the Avaya Aura® solution is ready.

Scalability and Quality of Service

While a SIP foundation is critical to streamlining existing architectures and evolving to UC&C, so are scalability and quality of service. The dimensions of the shift to real-time communications and collaboration pose major scalability issues:

- Video endpoints now account for more than half of all endpoints sold on enterprise networks.[5]
- Some 150 million people use their own phones and tablets at the office, often for video and other bandwidth-intensive content. That number will more than double in the next few years.[6]
- In addition to user productivity tools, enterprise networks continue to handle a wide range of SIP and non-SIP endpoints, including fax machines, imaging devices, storage and more.

To meet scalability and performance challenges—as well as provide a foundation for reliability—the capacity of the Avaya Aura® platform has more than doubled since its introduction:

Endpoints: The core Avaya Aura® architecture can now provide the horsepower required to handle up to 250,000 connections, or endpoints.

Trunks: The maximum number of SIP trunks allowed on a single Avaya Aura® Communication Manager has been expanded from 7,000 to 24,000, with up to 12,000 trunks in use simultaneously.

5. Cracks appearing in immersive telepresence market, Infonetics Research, http://www.infonetics.com/pr/2012/1Q12-Enterprise-Telepresence-and-Video-Conferencing-Market-Highlights.asp
6. Security Headaches: BYOD Users Expected To Double By 2014, Juniper Research, http://www.informationweek.com/byte/personal-tech/smart-phones/security-headaches-byod-users-expected-t/240005060

Virtualization

Virtualization has played a major role in data center consolidation. Spreading applications across multiple servers makes better use of often idle capacity and provides more flexibility in terms of administration and data center management.

The Avaya Aura® platform has now been adapted for deployments in virtual environments, giving customers the choice of using the VMware option or continuing to deploy the Avaya Aura® solution in the appliance model with servers provided by Avaya.

For customers who want to migrate to the latest collaboration solutions such as the Avaya Flare® Experience or Avaya Aura® Conferencing 7 but hesitated, Avaya Aura® Virtualized Environment provides a hardware-efficient, simplified option for upgrading to the latest Avaya Aura® release and adding the latest Avaya Aura® capabilities.

Mobility and BYOD

The shift to mobility in today's enterprise is huge:

- In 2009, when the Avaya Aura® solution was announced, less than one in five people in the U.S. used a smartphone. Today, it's over half.[7]
- Most employees now juggle an average of 3+ mobile devices—a tablet, a laptop and a smartphone—all of which have data communications and collaboration capabilities.[8]
- Ninety percent of employees already spend at least some time working off-site, and their numbers are expected to reach 1.2 billion by 2013[9]

7. America's New Mobile Majority, Nielsen Wire, http://blog.nielsen.com/nielsenwire/online_mobile/who-owns-smartphones-in-the-us/
8. Connected Mobile Workers Power Innovation To New Heights, Forrester, March 2012, http://www.avaya.com/uk/resource/assets/whitepapers/BCL%20-%20Mobile%20Collaboration%20-%20Connected%20Mobile%20Workers%20Power%20Innovation%20-%20Mar%202012.pdf
9. Plantronics, How We Work: Communications Trends of Business Professionals, http://www.plantronics.com/us/howwework/

The Avaya Aura® platform provides the critical foundation for mobility and its implementation of SIP is well suited for mobile environments. Virtually all new smartphones, tablets and other mobile devices are SIP-based. The Avaya Aura® solution delivers the cross-device management and functionality that makes it possible to effectively integrate these devices under the enterprise umbrella:

- With SIP as the binding technology on the back-end, users can deploy the same features on their mobile devices as they have on the desktop.
- With SIP as the underlying transport mechanism, it is easier to integrate with other platforms and applications that follow the open SIP standards.

The latest releases take more steps to creating truly people-centric collaboration using mobile devices:

Device Interface: Avaya not only makes it possible to implement standardized user interfaces across devices—it is creating them, including both the portfolio of point-and-click Avaya one-X® clients (for PCs and smartphones) and the innovative gesture/spotlight-based Avaya Flare® Experience (for tablets and PCs). Avaya Flare® Experience is perhaps the industry's leading example of a SIP-based endpoint solution specifically designed for collaboration. These solutions enable users to take advantage of their device of choice, while still integrating and managing conferencing, Web collaboration, directories, contextual history, social media, presence, IM and more.

Presence: Incorporating a presence engine (Avaya Aura® Presence Services) as part of the Avaya Aura® solution means robust presence notification capabilities can now be implemented without incurring the expense of third-party solutions. Avaya Aura® Presence Services now includes integration with Microsoft Office Communications Systems (OCS), Lync and other popular IM platforms.

Network Security: The Avaya Aura® platform establishes the critical baseline network-access control that is needed for the new era of mobility. The SIP-based capabilities deliver the additional security that cannot be provided by traditional protocols:

- Maintaining common profiles for each user that can be accessed anywhere in the enterprise
- Authenticating users before allowing access to applications
- Delivering deep packet inspection and a SIP firewall to isolate applications from threats by malicious users and devices
- Integrating with Avaya Identity Engines which provides a centralized point for establishing network access policies

Collaboration

As mobile communications options increase, employees find themselves more connected but not always more productive. As people work further apart, they need new tools to help them work closer together.

For these reasons and more, effective workforce collaboration is a critical part of any business strategy today. The Avaya Aura® solution now delivers an array of SIP-enabled applications specifically designed for collaboration:

SIP-enabled Conferencing: In 2012, Avaya introduced Avaya Aura® Conferencing, which takes advantage of the open, standards-based SIP architecture to deliver unified voice and Web collaboration, including document sharing, IM/presence, e-mail and consolidated corporate and personal directories. It works with the Avaya Flare® Experience on Apple iPad tablets and Microsoft Windows PCs or laptops. Just as compelling, Avaya also introduced a zero-install, Web-based conferencing interface that works through any Web browser.

3D Conferencing: Another powerful example of the kinds of applications that are possible is AvayaLive™ Engage—the virtual, avatar-based Web conferencing application that provides a flexible, multidimensional interaction environment for online meetings, training, recruitment, team building and more.

Going Beyond Presence: Having delivered presence, the Avaya Aura® solution is already moving onto the next stage: awareness—telling you not only where people are located and whether they are online but also what content needs to be shared. Avaya is already experimenting with “awareness filters” for Avaya Flare® Experience: as you drag and drop contacts to set up a conference call, Avaya Flare® Experience analyzes the connections and pulls in documents related to that project. While awareness capabilities are just being considered for enterprise-wide deployment, they are already being implemented by Avaya in its contact center solutions (see below).

Customer Experience

There is probably no area of business that has undergone more change than customer service.

Customer service is now fully multichannel. This gives companies more access to their customers. But, at the same time, consumers have gained greater control over the relationship through the ability to research online, get recommendations, make recommendations and quickly spread the word about positive and negative shopping/brand experiences.

Video

Video has assumed a much larger presence in enterprise networks. The quality and convenience is now there to make it a go-to option for any meeting where travel is inconvenient (and not cost-effective) and where the visual exchange of information can impact value.

The Avaya Aura® solution meets the huge demand for video, offering its own solutions for desktops, mobile devices and traditional meeting room systems (solutions from Radvision, an Avaya company), while also supporting those of third-party providers.

Just as important, recent releases have addressed the bandwidth issues that have led many enterprises to postpone their video deployments or implement costly and inefficient standalone solutions. The Avaya Aura® solution now makes it possible to set bandwidth allocations between voice and multimedia traffic, allowing bandwidth to be allocated depending on current traffic levels and prioritizing traffic based on the application or the location of the user. When bandwidth is at a premium, instead of simply not completing the voice call or degrading the signals, the solution can automatically "downspeed" video calls to allow voice communications to proceed.

In a multichannel world, equipping your contact center agents to handle e-mails and texts as well as phone calls is no longer enough. The new era of customer experience management is all about orchestrating customer engagement across all touch points. To do that, a sophisticated SIP-based infrastructure is the critical first step. A SIP architecture enables the application, context and multimedia integration that customer service requires today.

As the global leader in contact center solutions, Avaya has already taken advantage of these and other capabilities to create the unified Avaya Aura® Contact Center (AACC).

Unified Agent Desktop: Agents can use a single interface to manage multichannel contacts (Web chat, e-mail, etc.). Because interactions are "session-based," participants can move across media without being transferred or otherwise interrupting the interaction.

Context: Information that is critical to managing a customer is made available from the very start of each interaction. Avaya Aura® Contact Center takes the call, gathers all pertinent customer context (including the requisite customer account number, history, and anything else that's pertinent) and matches it to the most appropriate agent. The agent simultaneously has the right resources, including any potential experts, displayed along with the call.

Social Media: The solution manages social media as well: agents can respond to social media postings such as tweets and Facebook updates, but in a single consistent view, making it easier for the agent to get the full picture without having to go to a separate screen or application.

Self-service Integration: Self-service options are also fully integrated—not a separate channel. Avaya Aura® Experience Portal allows for a seamless handoff of customer data to the agent from any self-service session.

Resiliency

Resiliency and reliability are critical to the success of real-time communications—this is as true today in the era of video and collaboration as it was in the era of telephony.

The Avaya Aura® platform was introduced with powerful continuity capabilities and has continually enhanced them to make it possible for organizations to use their communications infrastructure to quickly redirect and re-deploy resources whenever and wherever they are required.

The solution supports active-active configurations which can go well beyond the traditional N+1 active-standby architectures. Session Manager's ability to configure one endpoint to multiple servers, combined with expanded scalability, means that network managers can engineer the network to what is needed, instead of being bound to inadequate capacity limits.

And by sharing the enterprise's database across all instances of Session Manager, any Session Manager can be replaced by any other Session Manager in the network. This provides "hot" failover that does not require initialization. A SIP network of Avaya Aura® Session Managers and Communication Managers can handle multiple failures of the network or network elements and continue to provide service at full enterprise capacity.

Session Manager also supports Call Preservation in the event of a network or Session Manager failure in the core. This capability allows calls in queue in a contact center to be processed in the normal way without any interruption or loss in service.

Network Monitoring and Energy Efficiency

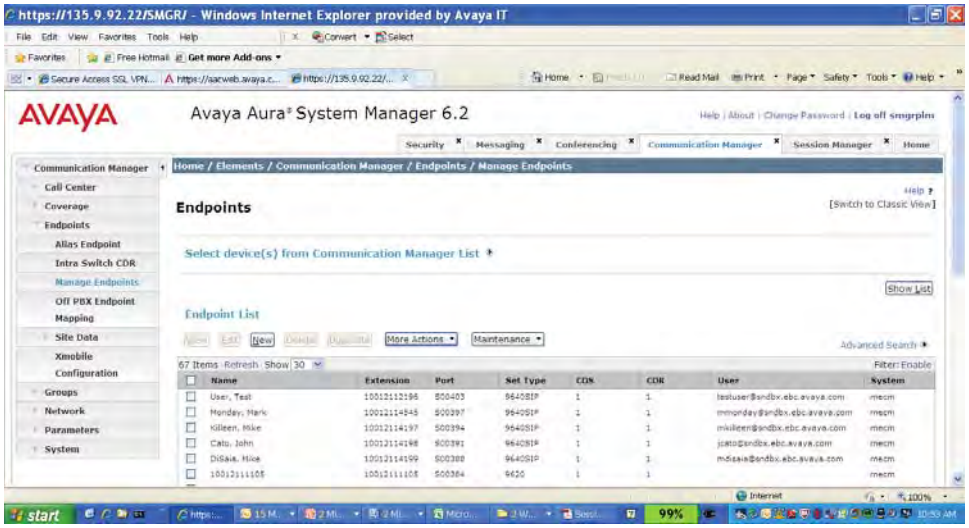
Given the wide range of applications and users accessing real-time network resources, IT organizations need tight control through real-time data on resource utilization as well as comprehensive historical data so that network resources can be monitored and optimized based on business requirements.

The Avaya Aura® platform provides centralized tools that monitor and report on:

- Message traffic and contents
- Network bottlenecks to show how multiple applications are collaborating
- Faulty applications
- Application quality issues like voice and video artifacts or noise

Avaya Aura® System Manager's new tab-based administration interface allows lightning-quick screen changes between operations. In addition, System Manager simultaneously supports multiple Session Manager releases for flawless system upgrades.

Avaya industry-leading energy efficiency delivers immediate operations savings by reducing the amount of power that is directly used to run a given set of equipment, while also enabling savings in energy consumption through reductions in cooling.



Simplifying the Transition

Many if not most enterprises have varied and complex communications infrastructures with legacy equipment and applications from a range of vendors. Avaya has implemented numerous capabilities to simplify the transition to the Avaya Aura® SIP-based solution:

Legacy: Recent releases support connectivity to older versions of Communication Server 1000, Communication Server 2100, and Business Communications Manager systems, and offer the advantages of innovative "implicit" user sequencing to all endpoints on these existing systems.

With Communication Server 1000 Release 7.5, implicit user sequencing is even available for intra-Communication Server 1000 calling. In addition, the core Avaya Aura® Session Manager can be used for legacy Network Routing Server (NRS) replacements. For enterprises looking to migrate their legacy Communication Server 1000 Network Routing Service (NRS), a Routing Data Conversion Tool (RDCT) is provided to simplify the transition.

Cisco: The solution also supports connectivity to Cisco and other third-party PBXs. Cisco endpoint support allows customers to use their existing Cisco endpoints with the 6.2 release of Session Manager and Communication Manager. No special administration for Cisco phones is required as Avaya Aura® Session Manager detects the Cisco phones and applies the adaptations automatically.

Deployment options: Finally, to simplify the transition to SIP-based environments, Avaya Communication Manager can be configured as an Evolution Server, which allows it to support a mix of SIP and non-SIP solutions; or it can be deployed as a Feature Server in an all-SIP environment. Applications can now be sequenced based on the media requested: voice, video, text or any combination of the three.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

Is Now the Time to Upgrade?

Much has changed for today's enterprise communications networks. Much will continue to change.

But there is a great deal that won't change at all.

What won't change is the ongoing re-invention of the network, from:

- An undifferentiated backbone utility into a source of real-time competitive differentiation
- A pipe carrying voice and data into an enterprise resource organized around the needs of employees, management, partners, branch offices and more
- A technology defined into organizational, technological and functional silos into one that is the very embodiment of multifaceted awareness—context-aware, application-aware and identity-aware
- A resource designed for predictably into one designed for dramatic changes in user behavior and volatile surges in traffic

The Avaya Aura® platform was designed for this new era of enterprise network and continues to lead the global market through innovations that deliver real results to our customers.

Are you ready to step further into the future of enterprise networking? Avaya is ready today to take you there.

Learn More

To learn more about how the Avaya Aura® solution can bring the substantial benefits of unified communications and collaboration to your business, speak to your Avaya Account Manager or Avaya Authorized Partner.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc. or Radvision, an Avaya Company. VMware is a registered trademark of WMware.
12/12 • UC7180

AVAYA

avaya.com

Avaya Aura® Workforce Optimization

Create a Differentiated Customer Experience by Harnessing the Power of Avaya Aura® Workforce Optimization

Avaya Aura® Workforce Optimization helps businesses balance efficiency and effectiveness by utilizing the contact center strategically rather than just as an organization that fields calls. Not only does Avaya Aura® Workforce Optimization give businesses a better understanding of customer satisfaction and dissatisfaction, it offers intelligence that allows the business to operate more efficiently. Processes that were cumbersome and caused dissatisfaction can be easily identified and modified. Agents who are not getting the proper training or assisting customers appropriately can be identified and coached. The Avaya Aura® Workforce Optimization solution provides businesses with a deeper and more meaningful look at customer interactions.

Avaya Aura® Workforce Optimization unifies Contact Recording, Quality Monitoring, eLearning, Workforce Management, Speech and Desktop Analytics, and Customer Feedback under one platform that provides a single user interface and centralized system administration and reporting. With Avaya Aura® Workforce Optimization, your contact center and back-office operations can capture, share, and act on information from across the enterprise. As a result, you can make better decisions faster, and benefit from a single, coordinated source of support, service, and maintenance with a lower total cost of ownership. Avaya Aura® Workforce Optimization is the solution you need to transform customer service from a detached business function into a strategic enterprise asset.

How to Leverage Workforce Optimization to your Greatest Advantage

In today's business environment, it is vital to invest in and extend customer service across your enterprise. Inconsistent customer experiences can result in missed revenue opportunities or worse yet, may even drive your customers away. An untrained workforce can drag out average handle times, increasing your costs, and treating customer service as an isolated part of the business diminishes it as an enterprise asset. The right solutions can help your company transform customer service from a detached business function to an integrated set of business processes supporting a customer-centric strategy that influences your corporate top and bottom lines. From providing sales and service to gathering customer intelligence to disseminating information for decision making throughout your organization, your contact center – and the people who staff it – can be formidable strategic assets.

A strategic component of any contact center, customer-centric solutions like Avaya Aura® Workforce Optimization allow you to make better decisions faster so you can optimize your business processes and returns. Through Avaya's comprehensive solution both real-time and historical customer and operational data can be collected, organized, and analyzed.

avaya.com

Avaya Aura® Workforce Optimization provides a closed-loop system for continuous performance improvement, enabling you to:

- Establish realistic forecasts and performance goals
- Schedule and deploy the right number of staff – whether in the office or home-based agents – with the appropriate skills to meet customer needs
- Capture customer interactions – in their entirety – through full-time recording, based on user-defined business rules, or through random or on-demand recording
- Securely record and store transactions to meet Payment Card Industry (PCI) Data Security standards through optional encryption management
- Measure performance to identify excellence and areas for improvement
- Apply intelligent analytics to customer interactions to investigate opportunities for optimizing people, processes, technologies, and customer relationships
- Take action by delivering targeted training or re-engineering processes
- Refine your forecasts and performance goals based on the valuable data you've collected

Get the Most from Your People, Processes, and Technology

The Avaya Aura® Workforce Optimization solution is designed to optimize agent performance and business processes, reduce risk, uncover business trends and competitive advantages, and enhance customer service and relationships across your organization.

Contact Recording – The Avaya Aura® Workforce Optimization Solution includes a software-based recording solution that captures customer interactions across a wide range of channels. With rich integration to the Avaya Unified Communications platforms, it captures voice and data interactions in IP, TDM, SIP and mixed telephony environments, as well as handles high-volume recording for compliance and sales verification. Record audio across multiple sites in bulk, on-demand, or based on predetermined business rules in addition to recording conference calls. You can also search and replay recordings by a wide variety of "tagging" parameters. Full-time desktop screen recording is also available.

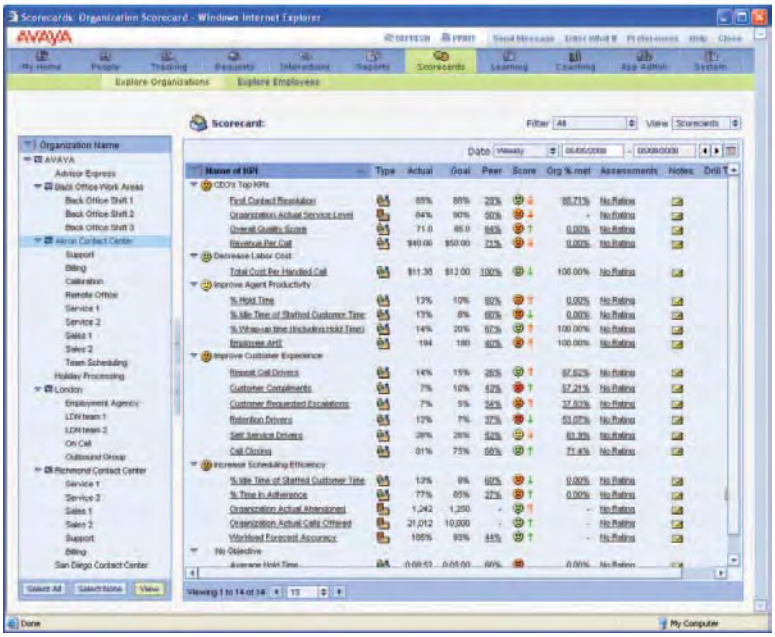


Figure 1. Quality Monitoring Scorecard

Quality Monitoring – By adding Quality Monitoring to Contact Recording, businesses will have an integrated application that allows supervisors to monitor complete interactions and score agents on their performance. Avaya Quality Monitoring captures the on-screen activity of agents, such as data entry, screen navigation and data retrieval, and synchronizes it with the voice recording captured by Contact Recording. During replay, this provides a complete and comprehensive view of the customer interaction. Quality Monitoring also provides several contact center agent performance enhancement tools. Flexible forms design, reporting, and graphs allow team leaders and supervisors to calibrate quality metrics, evaluate interactions, and coach staff.

eLearning – It's easy to use captured customer interactions to create a library of best practices for training your agents. By editing select contacts and creating "learning clips" specific to your business, you can rapidly address skill gaps, respond to changes in processes and regulations, and get your staff up to speed quickly. It's ideal for products and services, campaigns and programs, or policies with a limited shelf life — something that's just not practical with traditional course development software. Training sessions can be automatically assigned and delivered directly to your agents' desktops based on scorecard results and/or quality monitoring evaluations. Supervisors can also manually select and assign the appropriate training sessions from a library of courseware. Employees can even assign lessons to themselves to brush up on specific skills proactively. Workforce Optimization then provides course completion reports and flags subsequent interactions, allowing you to gauge the effectiveness of the training and identify any remaining knowledge gaps.

Performance Management Coaching – Coaching has a long history of being successful in creating change in a person's performance. The face-to- face or person-to-person interactions hold intrinsic value that cannot be replaced by other techniques. Coaching techniques are easily performed and can provide a high value

avaya.com

and return on investment when compared to the initial cost and effort. Managers can view coaching events for their teams and schedule coaching sessions proactively, which is unified with the rest of the Avaya Aura® Workforce Optimization solution. Point-and-click fields make it easy to set up meetings and attach relevant information to the online coaching form, such as recorded calls, KPIs, or evaluations. Managers can either deliver the coaching sessions themselves, or assign the coaching role to others. At the conclusion of a session, coaches can enter their comments into the coaching form to underscore the key points covered during the discussion. Employees then have the opportunity to provide their feedback on the session.

Workforce Management – There's never an exact formula for predicting the workload of calls, emails, and chat sessions. That's why the Avaya Workforce Management Solution provides a variety of methods for selecting, combining, and refining historical data for forecasting future transaction volume and handle time across queues. You can set profiles to model call behavior for different types of events and circumstances, as well as work out complex "what if" scenarios to ensure that you have the right staff to support your customer service operations. Avaya Workforce Management automates scheduling using powerful, patented algorithms that take business processes and employee proficiencies and preferences into account. As a result, you can quickly and easily produce schedules that maximize the efficiency of your contact center, enabling you to deploy the right number of agents, with the right skill sets, at the right time. Contact centers that are overstaffed are not operating efficiently, therefore draining precious budget resources. And because the Avaya Aura® Workforce Optimization solution is fully integrated, businesses have the ability to use quality scores as a factor in agent schedules. Agent quality scores can be imported from the quality monitoring application and used to schedule staff. This ensures consistent customer service levels across shifts through the right blend of agent skills. You also can improve your bottom line when you're able to schedule your most productive agents during peak periods.

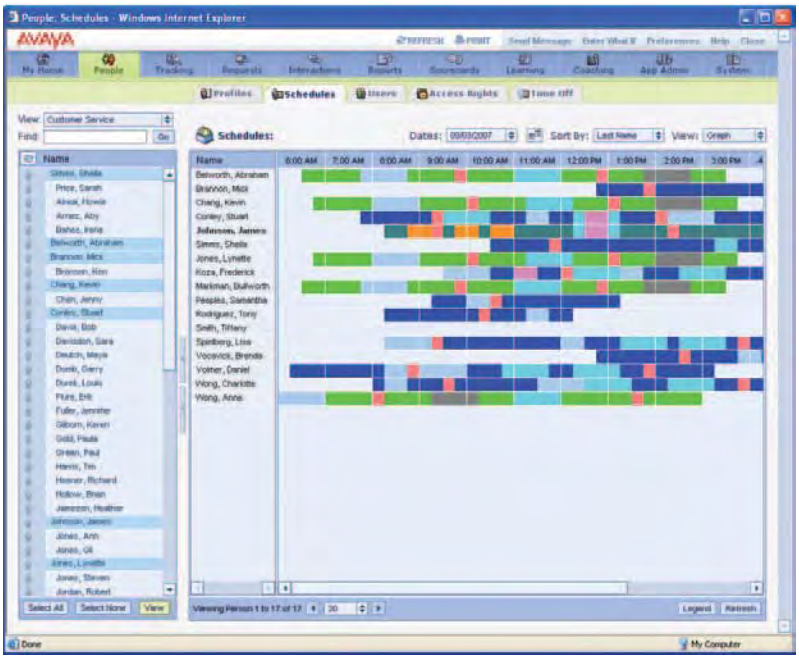


Figure 2. Workforce Management People Scheduler

Centralized Administration and Reporting – The Avaya Aura® Workforce Optimization solution provides centralized administration across multiple sites — enabling you to make better decisions faster, and implement them right away. You can administer staff information from a single point in the system, significantly lowering administration overhead and total cost of ownership. A common reporting engine with a single report writer across the complete solution enables you to choose from an extensive set of standard, pre-configured reports, or conduct ad-hoc queries for more sophisticated and custom analysis of your operations

Desktop and Process Analytics (DPA) – Desktop and Process Analytics provides the ability to monitor and improve employee performance by capturing and measuring their desktop application activities. DPA provides an objective and unbiased visibility into how work is performed at the employee desktop. This enables process automation, process guidance and real-time interaction with employees to create consistency in how work is performed at the desktop.

Platform Flexibility – The Avaya Contact Recorder (ACR) has been designed to integrate with a wide range of communication solutions from Avaya including Avaya Aura® contact center (AACC), Avaya Communication Manager, Avaya Communication Server 1000 (CS1000), and Avaya Proactive Contact This in-built integration helps reduce complexity and maintenance costs. All of the contact center's data can be migrated / upgraded from previous Avaya QM, WFM, Scorecards, Coaching and Learning applications releases.

Solutions for Your Business Challenges

You're considering new business communications solutions for one simple reason: success. Whether it's driving down costs and increasing revenue, meeting demand for new ways to interact with customers, enabling Web-based transactions and self-service, or creating a service experience customers won't find with your competitors, your challenge is as unique as your business —

OPTIMIZE YOU OPERATIONS FOR A BREAKTHROUGH CUSTOMER EXPERIENCE

- Deploy a single-provider, unified solution that combines contact recording, quality monitoring, eLearning, workforce management, speech and data analytics, and customer feedback functionality, helping your business generate additional revenue and increase profitability; improve staff productivity and performance; and optimize customer relationships
- Transform your business into a customer-centric organization by delivering first-rate service, consistently and cost-effectively, across different communications channels and locations
- Streamline processes, ensure consistent service levels and quality, and uncover valuable, previously undiscovered information through tightly integrated applications
- Obtain customer intelligence and competitive insight from multiple channels and use it strategically to make analytics-driven business decisions, enhance staff skills, foster customer satisfaction, and build competitive differentiation
- Securely record and store media in adherence to PCI-based security guidelines through optional encryption management functionality
- Increase staff satisfaction and retention by providing employees with input into their schedules and insight into their performance
- Leverage captured customer interactions to build a library of best practices for training your workforce, and perform assessments to gauge skill acquisition and knowledge retention

and your definition of success. Your solution must deliver on your terms. The contact center Portfolio from Avaya meets the challenge. Built on proven technology and best practices from Avaya, it's how businesses around the world achieve their unique communication objectives.

Use our Experience to Your Advantage

Take full advantage of Avaya's recognized strength in voice heritage, application development, global services and industry leadership with out experts around the world. Avaya Global Services provides a suite of services designed to give you maximum flexibility in choosing the services needed to best support the unique needs of your contact center and your business. Services include planning, design, integration, and comprehensive support. To learn more about the Avaya Contact Center Portfolio and Workforce Optimization solutions, visit **www.avaya.com**, or contact your Avaya Client Executive or Authorized Avaya Business Partner today or call 866.GO.AVAYA.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit www.avaya.com.

AVAYA
The Power of We™

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries.
All trademarks identified by ®, TM or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein.
References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
07/11 • GCC5250-03

avaya.com

AVAYA

avaya.com

Avaya Aura® Application Enablement Services

Simplified integration with hundreds of communications and business applications.

Overview

Avaya Aura Application Enablement Services provides developer interfaces for both off-the-shelf and custom integrations with hundreds of communications and business applications such as Microsoft Office Communicator and IBM Lotus Sametime, as well as a broad range of contact center, call recording and click-to-dial applications.

It includes an enhanced set of telephony application programming interfaces (APIs), protocols, Web Services, and direct IP access to media, and supports standards such as Computer Supported Telecommunications Applications (CSTA), Java Telephony API (JTAPI) and Telephony Server API (TSAPI) that expose Avaya Aura® Communication Manager features. This makes the full-functionality customization capabilities of Avaya communication solutions accessible to corporate application developers, third-party independent software vendors (ISVs), authorized BusinessPartners, and systems integrators. All of these services are integrated into a single, secure, scalable, software application with management, redundancy and fail-over capabilities to support mission-critical business needs.

Using Avaya Aura Application Enablement Services, software developers can write client applications in the programming language or protocol of their choice — enabling customers and DevConnect partners to integrate Avaya Aura with hundreds of communications and business applications.

Avaya Aura Application Enablement Services provides a server-based software solution that enables IBM Lotus Sametime or Microsoft Office Communicator to leverage the capabilities of Avaya Aura® Communication Manager software. By integrating the Avaya Aura Application Enablement Services platform in the customer's enterprise network, end users can access the set of "click to communicate" features provided by Avaya with seamless integration into their chosen desktop environment.

Avaya Aura Application Enablement Services also integrates Avaya Aura Communication Manager with our own Contact Center products including Avaya Interaction Center, Avaya Proactive Contact, Avaya Voice Portal, and Avaya Contact Center Express to deliver best in class Contact Center solutions. Using Avaya Aura Application Enablement Services, software developers can deliver added value by developing their own complementary Contact Center applications.

Key Customer Benefits

- **Improve worker efficiency and productivity** by eliminating manual dialing and driving all communication operations to a single desktop interface (i.e., Microsoft OC or IBM Sametime client).
- **More efficiently develop and integrate applications** for business solutions by leveraging Web Services interfaces.
- **Favorably impact Total Cost of Ownership** with the latest IP-based call recording solutions.
- **Increase uptime for critical applications** and lessen disruptions utilizing a secure, load-balanced, and redundant communication link to Avaya Aura Communication Manager.
- **Enterprises can create their own applications** using Software Development Kits (SDKs), training, tools, documentation, and developer support from Avaya.

Feature Summary

Automatic Failover: Eliminates Avaya Aura Application Enablement Services (AES) as a single point of failure by ensuring that if one Avaya Aura AES server fails, the second Avaya Aura AES server automatically takes over.

Integration with IBM Sametime: Avaya Aura Application Enablement Services integrates with IBM Lotus Sametime. The enterprise-class integration provides click-to-call, click-to-conference, and telephony presence capabilities from IBM Lotus clients. With Avaya's integrated telephony presence feature, Sametime users can see who is on the phone even when that user is not logged into Sametime.

Integration with Microsoft Office Communicator: Avaya Aura Application Enablement Services makes possible numerous desktop telephony features such as click-to-call and exchanging Avaya telephony presence with other Microsoft Office Communicator users. These features improve the efficiency and productivity of the enterprise worker by eliminating the manual aspect of dialing numbers and driving all their communication operations to a single desktop interface.

Integration with IBM Websphere CEA: Avaya Aura Application Enablement Services integrates with IBM Websphere Application Server (WAS) Communications Enabled Applications (CEA) to allow Websphere IT developers to easily and rapidly add Avaya communications capabilities to their applications.

Third-Party Call Control: Avaya Aura Application Enablement Services provides adjunct control of telephone calls (e.g. third-party call control) through its call control APIs (TSAPI, JTAPI, CallVisor LAN (CVLAN) and DEFINITY LAN Gateway (DLG)) to complete adjunct routing of incoming calls, report various events to an adjunct, provide notification/control for a specific station/call, perform adjunct invocation of switch features and respond to adjunct queries for information.

TSAPI/JTAPI Service: Avaya Aura Application Enablement Services with Avaya Aura Communication Manager and Avaya Aura® SIP Enablement Services provides the ability to control Avaya SIP endpoints via TSAPI/JTAPI.

Device and Media Control/Fundamental Third-Party Call Control: Device, Media and Call Control (DMCC) exposes the powerful feature set of your Avaya telephony server through an open, standards based, Java and Extensible Markup Language (XML) programming interface.

Web Services: Avaya Aura Application Enablement Services provides the ability for

traditional IT application developers to interface with Avaya Aura Communication Manager through standard Web services via Simple Object Access Protocol (SOAP)/XML methods. This provides developers with a familiar way of implementing new and innovative solutions.

Telephony Web Service: Allows telephony functions such as click-to-dial to be incorporated into the customer's current web applications.

System Management Service: Provides a way for applications to programmatically access and administer a subset of administration objects on Avaya Aura Communication Manager. This enables a wide range of applications that can provide value by manipulating Avaya Aura Communication Manager features. System Management Service (SMS) also supports vectors, allowing third-party developers to create SMS applications to administer vectors.

Additional Features

Computer Telephony Integration: Exposes multiple computer telephony integration (CTI) server platforms onto a single server while supporting the leading industry APIs including TSAPI, JTAPI, Avaya CVLAN API, DMCC API and DLG. Complete backwards compatibility for all of these APIs helps ensure the Avaya Aura Application Enablement Services platform will serve legacy, as well as current and future application needs.

Software Development Kits: Consists of client API libraries, XML Schema Definitions (XSDs), Web Service Definition Language (WSDL), Java/XML programmer guides, extensive sample applications, and other development tools. There are five SDKs: IP Communications SDKs (DMCC), DMCC Dashboard, TSAPI SDK, JTAPI SDK, and Web Services SDK. In addition, there is a .NET SDK for DMCC, as well as the JAVA and XML SDKs.

Simple Network Management Protocol Support: Provides a standard interface allowing data to be collected by the customer's SNMP Management application, allowing the customer to view performance data from multiple Avaya Aura Application Enablement Services instances along with data from other elements in the customer's network.

Security and High Availability: Provides secure transport between Avaya Aura Communication Manager and the Avaya Aura Application Enablement Services platform. This application link greatly improves network security and reliability by providing link encryption, redundancy, automatic load balancing and transparent link failover. The application link capabilities are standard with Avaya Aura Application Enablement Services. This greatly enhances end-to-end solution reliability by adding link resiliency to preserve application session continuity during link outages of up to 30 seconds.

Technical Specifications

Deployment Options

- Software Only: Includes the various APIs but does not support Automatic Failover.
- Avaya Aura AES on System Platform: Includes the Avaya Aura AES software and operating system deployed on Avaya S8800 Server and the Dell PowerEdge R610 with Avaya Aura® System Platform.
- Upgrades: Avaya Aura Application Enablement Services 4.x currently deployed as software only or on S8510 servers can be upgraded to the latest 6.1 release, but does not support automatic failover. Avaya Aura Application Enablement Services 5.x can be upgraded to AES 6.1, within the scope of initial sale (software only; System Platform; bundled upgrade) on the servers supported below.
- Avaya Aura Midsize Enterprise Single Server: A package of four key Avaya Aura applications—Communication Manager, Avaya Aura Application Enablement Services, SIP Enablement Services, Media Services (media gateway)—on one Avaya-provided server.

Requirements and Supported Systems

- Servers:
  - — Dell PowerEdge R610 (new deployments only)
  - — S8800
  - — S8510 (upgrades only, no automatic failover and no capacity increases for S8500)
- Operating System: Red Hat Enterprise Linux 5 Update 5
- Third-Party Integration:
  - — IBM Lotus Sametime 8.0 and 8.5
  - — Microsoft Office Communicator 2007 RIs 1 and RIs 2 (also continues to support Microsoft Live Communication Server 2005)

Capacity

- 1,000 CTI messages per second on S8800, Dell PowerEdge R610 and S8510
- 4,000 DMCC clients for S8800, Dell PowerEdge R610 and S8510
- Microsoft Office Communicator: 20,000 concurrent client applications at 24,000 BHCC (with dedicated Avaya Aura Application Enablement Services server) on S8800, Dell PowerEdge R610 and S8510
- IBM Lotus Sametime: 10,000 concurrent client applications at 12,000 BHCC (with dedicated Avaya Aura Application Enablement Services server) on S8800, Dell PowerEdge R610 and S8510

Learn More

To learn more about Avaya Aura Application Enablement Services, talk to your Avaya Account Manager or Authorized Partner. Also, visit us at www.avaya.com.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit www.avaya.com.

AVAYA
The Power of We™

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
06/11 • UC4303-03

avaya.com

AVAYA

avaya.com

Avaya Aura™ Communication Manager Messaging

Easy to use messaging capabilities simplify information exchange

Avaya Aura™ Communication Manager Messaging is part of a portfolio of communications solutions designed to help you easily connect your employees, customers, and processes for sophisticated and productive collaboration.

Communication Manager Messaging provides a low cost and easy to install solution that includes call answering and messaging capabilities.

Avaya Aura Communication Manager Messaging 6.0 is a powerful embedded addition to the Avaya Aura™ Communication Manager 6.0 delivering voice and text messaging to help improve communications and simplify information exchange between enterprises.

Communication Manager Messaging Federal Market 6.0 provides significant capacity increases by introducing support for the S8800 server.

Key Customer Benefits

- **Unified Communications** Communication Manager Messaging delivers proven voice messaging capabilities that improve employee productivity and customer service. Users can easily communicate with contacts anytime and from any endpoint.
- **Enterprise Standardization** Communication Manager Messaging accommodates enterprise users, allowing each to easily communicate with colleagues and decision makers with a consistent experience.
- **User Friendly Experience** Communication Manager Messaging provides access to communication and messaging capabilities through simple intuitive interfaces. Within the telephony user interface, help prompts provide users immediate support.
- **Secure Communications** The Communication Manager Messaging Federal Market application passed rigorous susceptibility and interoperability testing of the United States government, and is deployed by several government agencies and departments. Release 6.0 is expected to receive US Department of Defense Joint Interoperability Test Command (JITC) certification.
- **Exceptional Availability** Communication Manager Messaging is arguably best in class with respect to software quality in the voice messaging space. Minimal downtime and near zero defects contribute to a gratifying user and support experience.
- **Low Total Cost of Ownership** The Communication Manager Messaging application is an embedded software package that requires no additional servers.

Offer Summary

Avaya Aura Communication Manager Messaging application includes a broad set of voice messaging features, including:

- **Call Answer** Helps ensure that information and messages can be securely left in a user's voice mailbox while they are away from their workplace or on the phone.
- **Voice Messaging** Users can record a message, address it, and send it to other Communication Manager Messaging network users.
- **Email Client Access** Standard internet messaging protocols (IMAP4 and SMTP) support the retrieval of messages using industry standard email clients, consolidated in an email inbox.
- **Outcalling (Call Me)** Users can administer the application to outcall to another phone to notify them of new messages, with time of day and priority parameters.
- **Automated Attendants** Sophisticated capabilities for customer call handling, custom prerecorded announcements, and call routing based on caller response to menus and prompts.
- **Message Networking** Enables the networking of multiple messaging platforms efficiently across disparate geographic locations in point to point or hubbed topographies.

- **Simplified System Administration** Administration is fully integrated with Communication Manager, with a common web page look and feel, and help page support.
- **IP Technology** The application is configured efficiently with Avaya Aura™ Communication Manager using a robust and proven H.323/Q.Sig integration. The latest release adds support for IPv6 and mixed IPv4/IPv6 environments.
- **Scaled Capacity** Various server options are available to meet different capacity requirements.
- **Centralized Messaging** Enables support of any station extension in the uniform dial plan with the Q.Sig network of remote gateways and switches.

System Requirements and Interoperability

Avaya Aura™ Communication Manager Messaging:

- The application is embedded with Communication Manager and must be at the same release. Release 6.0 is the current release.
- Integration to Communication Manager is provided through H.323/Q.SIG. SIP integration is also available with Avaya Aura™ Session Manager 6.0.

Avaya Aura™ Communication Manager Messaging Federal Market:

- Release 6.0 is compatible with Communication Manager release 6.0, 5.2. and 4.0.
- Integration to Communication Manager is provided through H.323/Q.SIG.

Supported Local Languages

Avaya Aura Communication Manager Messaging supports 35 distinct language packages.

Learn More

For more information about Avaya Aura Communication Manager Messaging, please contact an Avaya Account Manager, Avaya Authorized Partner or visit us on **avaya.com**.

Specifications:

Maximum Capacities Release 6.0	Communication Manager Messaging 6.0	Communication Manager Messaging 6.0	Communication Manager Messaging Federal Market 6.0
Server Type	**S8300D**	**S8510/S8800**	**S8800**
Subscriber Mailboxes	1,000	6,000	15,000
IP Trunk Call Answer Ports	24	210	210
IP Trunk Total Ports	36	250	250
IMAP4 Sessions	450	6,000	6,000
MCAPI (formerly known as IMAPI) Sessions	128	128	128
TTS Sessions	12	30	30

Standards and Feature Capabilities:

- Multimedia Messaging; Voice, Fax, Text, and other media
- Call answer, Call sending, Call forwarding
- INTUITY™ AUDIX® Telephony User Interface (TUI)
- 35 TUI language packages
- Outcalling mobility
- Multiple personal greetings
- Auto Attendants, Bulletin Board, Broadcast
- Standards based; SIP, H.323/Q.Sig, SMTP/MIME, IMAP4, TCP/IP, LDAP, SSH/SSL, IPv6, and more
- Migrations; INTUITY AUDIX R4.4, R5.1, INTUITY AUDIX LX R1.1, R2.0, and Communication Manager Messaging Federal Market 4.0.2

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit www.avaya.com.

AVAYA
The Power of We™

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
06/11 • UC4290-03

avaya.com

AVAYA
The Power of We™

Avaya Aura® Communication Manager

The Foundation of your Business Collaboration Solution.

Communication Manager is a comprehensive software foundation for real time voice and video communications.

More than 700 services for unified communications, including mobility, contact center, messaging, auto attendant, advanced conference calling and E911.

Overview

Avaya Aura® Communication Manager is a key component of Avaya Aura, Avaya's architecture for next generation, people-centric collaboration. It delivers rich voice and video capabilities and provides for a resilient, distributed network of media gateways and analog, digital and IP-based communication devices. In addition, Communication Manager boasts robust PBX features, high reliability and scalability, and multi-protocol support.

Avaya Aura Communication Manager enables the virtual enterprise with:

- Robust voice and video call processing capabilities.
- Advanced workforce productivity and mobility features.
- Built-in conferencing and contact center applications.
- Centralized voicemail and attendant operations across multiple locations.
- Connectivity to a wide range of analog, digital, and IP-based communication devices.
- Support for SIP, H.323 and many industry-standard communications protocols over a variety of different networks.
- More than 700 powerful features in all.
- High availability, reliability and survivability.

Key Customer Benefits

Helping ensure business continuity

- **Transparent server failover:** If the primary server fails, the backup automatically takes over.
- **Redundant interfaces:** Minimizes the impact of local network failures.
- **Geographically separated redundant servers:** Provides redundancy across the IP telephony solution.
- **Branch office survivability:** Keeps branch offices and remote locations connected to the main data center.
- **Voice quality monitoring and management:** Checks for network conditions that adversely affect voice quality and automatically applies corrective action.

Avaya Aura Communication Manager Deployment Options:

- **Centrally located Feature Server:** you can connect all your offices and SIP end-points to Session Manager via SIP to a centrally located instance of Communication Manager. This will allow you to deliver core features consistently across the enterprise; with no local PBX restrictions. In addition to that you will be able to deploy full application sequencing capabilities.
- **Evolution Server:** you will be able to provide features and benefits to a mix environment of both SIP and NON-SIP, such as H.323, Analog or Digital end points and support implicit application sequencing capabilities.

These options can be used singly or can appear together on multiple Communication Manager servers in the enterprise to provide cost savings on Communication Manager server deployment and a rich set of customer sequenced applications .

Promoting enterprise security

- **Secure by design:** Avaya Aura Communication Manager telephony servers are isolated from the rest of the enterprise network to safeguard them from viruses, worms, DoS and other attacks.
- **Secure by default:** Avaya Aura Communication Manager uses the minimum number of services and access ports to reduce susceptibility to malicious attacks.
- **Secure communications:** Avaya Aura Communication Manager uses media encryption between servers, gateways and endpoints to secure the voice stream and signaling channels.

Enhancing workforce productivity

- **Handles incoming calls effectively:** Multiple options for call routing, queuing and priority handling.
- **Increases efficiency:** Easy-to-use features save workers hours in setting up, dialing and routing calls.
- **Improves collaboration:** Workers enjoy increased collaboration with easy-to-operate conferencing and paging features.

Open Standards

- **Support for open standards:** Facilitates embedding communications into business processes, adding value to the enterprise.
- **SIP support:** SIP improves the connectivity and openness of Avaya Aura Communication Manager and associated end-user devices, resulting in reduced costs, faster deployment of new functions and enhanced options for linking communications with business processes. SIP based presence lets users inform others of their status, availability and how they may be contacted.
- **End-to-end standards-based application integration:** Linux-based Avaya Aura Communication Manager software provides integration of old (TSAPI, JTAPI, CSTA) and new (Web services and service-oriented architecture) standards.

Simplified Network Management

- **Avaya Aura® System Manager:** Provides centralized administration of multiple instances of Communication Manager. It takes a solution level approach to network administration that allows IT departments to incorporate new components and applications under a common management umbrella over time, managing the elements of Avaya Aura together as a system.

Feature Summary

- **Telephony Features:** Comprehensive end user telephony features (i.e. auto attendant, call transfer, call forward, etc.) facilitate effective communications among employees, customers and partners.
- **Mobility Features:** Extensive in-building or in/out building wireless choices and hot desking features like Extension to Cellular (EC500), Personal Station Access (PSA) and Automatic Customer Telephone Rearrangement (ACTR)

extend Avaya Aura Communication Manager features to users no matter where they're working.

- **Collaboration:** Built-in features like Meet Me Conferencing (up to six parties) or the optional Expanded Meet Me Conferencing (up to 300) make it easy to collaborate with groups of peers, customers and partners.
- **Integrated Messaging:** Built-in messaging features and full capability for messaging integration with voice, fax and e-mail.
- **Call Center Integration:** Call center applications like Avaya Call Management System for real-time reporting and performance statistics, and Avaya Business Advocate for expert predictive routing based on incoming calls rather than historical data, are easily integrated.
- **Telecommuting:** Telecommuter capabilities route calls appropriately and give employees access to the full Avaya Aura Communication Manager feature set whether working at home, in the office or on the road.
- **Application Integration:** Lets IT application developers leverage Avaya Aura Communication Manager functionality via standard Web Services interfaces, enabling integration of business and communication applications with real-time telephony.
- **SIP Support:** Integrated SIP proxy/registrar server with SIP trunking support and duplicated server features to enable SIP interoperability and capabilities on Avaya Aura Communication Manager.
- **Quality of Service:** QoS features like Inter-Gateway Alternate Routing (IGAR) and Call Admission Control provide a no compromise approach to reliability and functionality on converged IP networks to assure Avaya Aura Communication Manager end users receive the same feature delivery over IP as when using circuit switched technologies.
- **Reliability & Survivability:** Supports a wide variety of servers, gateways and survivability features enabling 99.999% availability or better at highly competitive prices. The software is capable of mirroring processor functions, providing alternate gatekeepers, supporting multiple network interfaces and ensuring survivability at remote and central locations.
- **Intelligent Networking and Call Routing:** Lets organizations create a virtual fabric of many switches that can pass information and calls, opening new revenue opportunities and higher levels of customer service. Call routing features are also designed to reduce networking costs through effective use of IP Trunking over WAN or LAN links.
- **Security and Privacy:** Security features for detecting probable breaches, taking measures to protect the system, notification and tracking activities. Also provides real-time media encryption for environments where enhanced voice privacy over a LAN/WAN is required.
- **Safety and Disaster Recovery:** Tools to help organizations manage and respond to unforeseen emergency situations.
- **Integrated Management:** Powerful built-in tools for administrators and network managers to maintain communication solutions and drive down total cost of ownership, including applications for network management, configuration management, and fault and performance monitoring.

Technical Specifications

Operating System and Supported Servers

- Avaya supplied servers: HP® ProLiant DL360 G7 and Dell® PowerEdge R610, Avaya S8800, S8510, S8300D
- Avaya hardened Operating System: Red Hat Enterprise Linux

Capacity*

- Total number of Stations: 36,000
- SIP Endpoints: 36,000
- SIP Trunks: 24,000

Learn More

To learn more about Avaya Aura Communication Manager talk to your Avaya Account Manager or Authorized Partner. Also, visit us at **www.avaya.com**.

* Capacities are configuration dependent. Please contact your Avaya representative for complete details.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
11/11 • UC4296-06

AVAYA
The Power of We™

Avaya Aura® Messaging

The next generation of messaging to improve communications and enhance productivity while complementing your current infrastructure

Like most communications technologies, messaging systems are evolving from proprietary, isolated systems to more open, efficient, and intelligent IP based communications solutions. Avaya Aura® Messaging is Avaya's next generation solution for unified messaging that combines new and existing technology and expertise with industry standards to flexibly integrate within the Avaya Aura® architecture in Linux based server environments. It offers a rich set of end-user features to enhance productivity and the required flexibility, resilience, and scale to fit into demanding enterprise environments. The result is a cost effective and flexible approach to maximize your current and future messaging system investments, while bringing new application value and functionality to your organization.

Solution Overview

Avaya Aura Messaging is Avaya's next generation messaging solution. Through its intuitive, easy-to-use interface, employees manage email, voicemail, and fax messages on their device of choice including tablets, smartphones, and laptops.

Key Benefits

Avaya Aura Messaging:

- Provides fast, easy, and anytime access across the network
- Allows important calls to get to the right person, at the right time
- Alerts employees to critical new messages
- Enables better customer service with tools that enable faster and better decision making
- Gives flexible deployment options for message storage as well as ability to centralize or distribute per business need
- Reduces cost while maintaining existing dial plans through consolidation of multiple systems
- Helps ensure system is always up and available with multiple levels of resiliency

End User Features

Smoothing transition and training, Avaya Aura Messaging includes familiar Octel® Aria and INTUITY™ AUDIX® features and telephone user interface that users rely on and provides transparent data/mailbox migration for INTUITY customers. Avaya Aura Messaging also offers new sophisticated capabilities and an enhanced user interface for increased flexibility in managing their messages.

Key Features include:

- **Unified Messaging:** gives you integration of voice messages where users can view all messages at once and who sent them. Listen to or read your messages from email, deskphone or mobile phone.
- **Speech Auto Attendant:** lets callers say a name instead of entering an extension on the keypad
- **Voice recognition:** allows you to say names to address voicemail messages
- **Reach Me:** provides call forwarding to up to three numbers with user controlled settings
- **Avaya one-X® Speech:** integrates with solution to allow you to easily manage your voice messages, email, and calendar with verbal directions
- **Notify Me:** text message and email notification as well as outcalling
- **Internet Message Access Protocol (IMAP):** gives users easy access to messages from most email clients

- **Self administration:** enables users to easily manage their options through a web portal
- **Speech to Text:** Converts voicemail to text with delivery to your email inbox, smartphone, and other choices – for faster at a glance access to messages (delivered through third party)
- **Client-less Outlook toolbar:** Eliminates PC software installation, distribution and management
- **Telephone User Interface (TUI):** Per user choice of Aria and AUDIX-like TUI to minimize user retraining
- **Basic or mainstream licensing:** Provides cost effective per user deployment of basic versus enhanced capabilities

System Features

Flexible

The flexible architecture of Avaya Aura® Messaging is designed to fit a wide range of customer environments: from centralized to decentralized and from unified (integrated with an existing email system) to standalone (Avaya Message Store). The solution also has the ability to adapt over time as enterprise environments evolve in response to growth, centralization or increasing high availability/disaster recovery demands.

Scalable

Avaya Aura® Messaging is a scalable solution ranging from an easy-to-deploy single server system (with application and storage roles combined on a single virtual machine) to a fully scalable front-end/back-end configuration with dedicated servers for the application and storage roles.

Resilient

The Avaya Aura Messaging architecture provides a variety of high availability/disaster recovery options – ranging from an N+1 configuration for application servers, to locally survivable application servers that can stay fully operational with locally cached messages and greetings, to geographically redundant options for application servers.

Message Store

Avaya Aura Messaging supports simultaneous use of an Avaya message store, Microsoft Exchange and VMware Zimbra message stores. Assignment of message store type can be done on a per user basis.

Telephony Integration

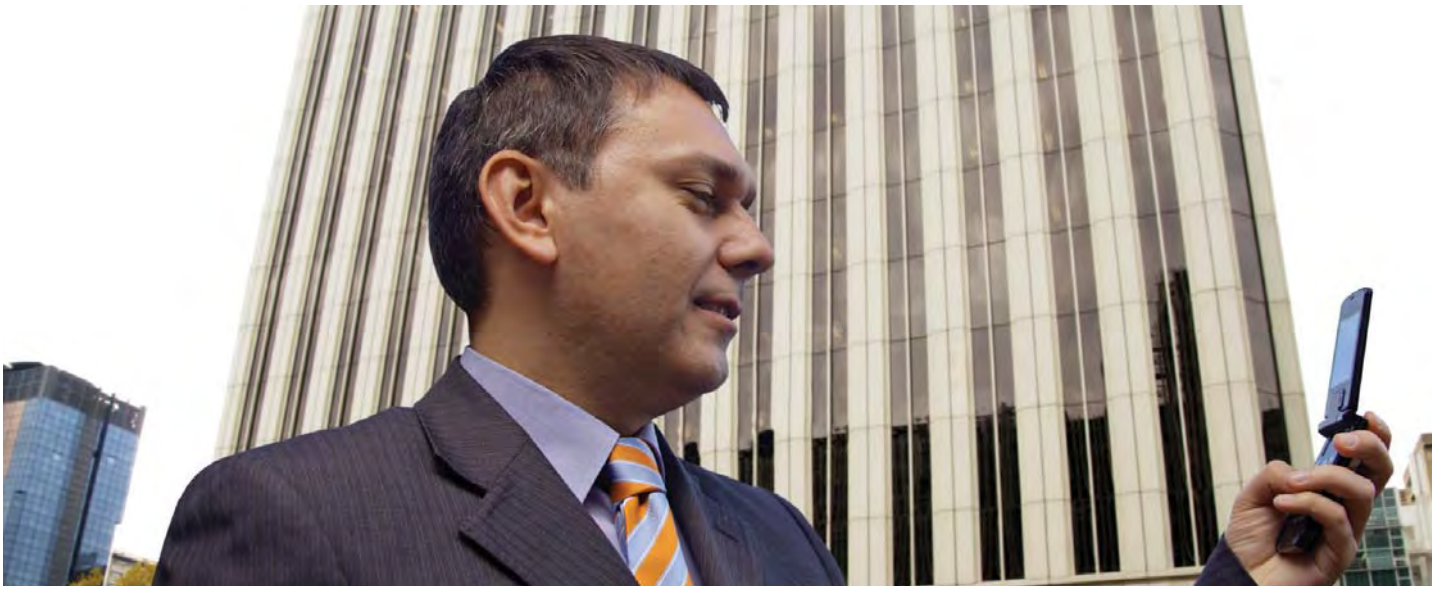
Avaya Aura Messaging supports SIP for telephony integration and is certified with Avaya Aura® Communication Manager, Avaya Aura® Session Manager, Avaya Communication Server 1000, and Avaya SIP Enablement Services (SES) as well as other PBXs through gateways.

Server Models

Two server models are available:

- **A standard Messaging server** can serve as a single server (combining application and storage role), an application only server, or a storage only server.
- **A "high storage capacity" Messaging server** can serve as a storage server able to support a larger number of mailboxes.

Avaya Aura Messaging uses standard Linux-based servers.



Migration and Upgrade Paths

Avaya Aura Messaging allows a smooth migration from Octel Aria and INTUITY AUDIX systems with migration incentives and preservation of key user data from existing systems for INTUITY customers.

Localized Versions

Avaya Aura Messaging supports multiple languages for availability in key markets world wide.

Learn More

To Learn more about the next generation of messaging, Avaya Aura Messaging please contact your Avaya Account Manager or Avaya Authorized Partner or visit us at **avaya.com**.

Avaya Aura® Messaging Technical Specifications

Dell R610 and HP DL360 G7, 1U - Available in two configurations

Standard Messaging Server Specifications: Can serve as a single server (combining application and storage roles), an application only server, or a storage only server.	• 1 Intel Xeon E5620 Quad-core 2.4 Ghz processor • 12 GB system memory • 438 GB Total Hard Drive Space, 10K RPM • 100 ports	• RAID 5 • In Application Only role: cluster up to 3 servers + 1 redundant
High Storage Capacity Messaging Server Specifications	• 1 Intel Xeon E5520 Quad-core 2.26 Ghz processor • 12 GB system memory • 584 GB Total Hard Drive Space, 15K RPM	• RAID 5 • Dual Power Supply

HP DL360 G7, 1U

Avaya one-X® Speech Server Specifications	• 1 Intel Xeon E5620 Quad-core 2.4 Ghz processor • 4 GB system memory • 292 GB Total Hard Drive Space, 10K RPM	• RAID 1 • Dual Power Supply • Microsoft Windows Server 2003 R2

Standard Features & Applications

Configuration Dependent

- **End User Features**
  - » Enhanced Octel Aria and INTUITY AUDIX-like TUIs
  - » Voice recognition for message addressing
  - » IMAP access to voice messages
  - » Clientless Outlook toolbar
  - » Browser application for managing user settings
  - » Reach Me and Notify Me features
  - » Speech to Text (through third party)
- **Basic Speech Auto Attendant**
- **Caller Applications**
- **Flexible**
  - » Centralized Deployment
  - » Distributed Deployment
  - » Adapt (relocation of Servers as business needs change)
- **Scalable**
  - » Single Server
  - » Multi-Server (front-end / back-end)
- **Resilient**
  - » Geographical Redundancy option for application servers (clustered over WAN)
  - » Geographically redundant N + 1 Configurations
  - » Locally survivable application server
- **Message Store**
  - » Unified with Microsoft Exchange or VMware Zimbra (Integrated with an existing email system)
  - » Stand-alone (Avaya Message Store)
  - » Mix of multiple message stores
  - » Per user selectable message store
- **Telephony Integration**
  - » SIP only
  - » Avaya Aura® Communication Manager
  - » Avaya Aura® Session Manager
  - » Avaya Communication Server 1000
  - » Avaya SIP Enablement Services (SES)
  - » Third party PBX with gateway

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
09/11 • UC4498-02

Avaya Aura® Presence Services

Real-time, multi-channel presence information for Avaya and third-party applications.

AVAYA

The Power of We™

Avaya Aura® Presence Services breaks new ground by integrating rich presence capabilities across the entire spectrum of communications applications — from voice calls and instant messaging to customer service and business processes.

Avaya Aura® Presence Services is a foundational element utilized by Avaya and third-party applications to collect and distribute rich Presence information and Instant Messaging (IM) capabilities throughout an enterprise. It is included as an entitlement with both Avaya Aura® Standard and Enterprise Edition.

An Enterprise Presence Solution:

- Supports a wide range of devices.
- Includes centralized management to administer and enforce personal and enterprise presence policies.
- Adapts to existing infrastructures with a low cost deployment.
- Is easy to use – and includes automatic activity based updates for users who don't spend time managing their status.
- Supports third party interoperability and accommodates new presences sources.
- Federates Presence across disparate systems.

- Scales easily to accommodate new users and the ever growing sources of presence information.

Avaya Aura® Presence Services collects and disseminates rich presence from Avaya and third party sources across a diverse set of business environments, enabling users throughout the network to reach the people they need, leveraging the multiple channels of communications available to them. Avaya Aura provides any user, anywhere on the network, with an actionable, aggregated view of all users across devices and multi-vendor applications.

Already widely used for instant messaging, presence has the potential to drive new levels of business user productivity and customer care by more easily making expert resources readily available to customers and employees.

New Platforms, New Applications, New Utility

Avaya Aura Presence Services work in concert with other presence-based applications, including Microsoft® Office Communication Server, IBM® Lotus Sametime, and other third-party applications using open standards SIMPLE (Session Initiation Protocol for Instant Messaging and Presence Leveraging Extensions) and XMPP (Extensible Messaging and Presence Protocol). This allows consistent presence visibility and the use of a wide array of business communications applications including Avaya one-X® clients and deskphones to provide fully aggregated presence capabilities.

- Full aggregated presence is provided in Avaya one-X® UC clients and Avaya one-X® deskphones.

Benefits of Avaya Aura Presence Services

- Increased productivity by users gaining the ability to more effectively reach the people they need, and leveraging the multiple channels of communications available to them.
- Improved customer care in the contact center by making expert resources readily available to respond to a customer issue.
- Easier collaboration between mobile, remote and headquarters' employees through presence awareness.
- Faster one-and-done issue resolution through more effective communication.
- Improved process cycle time through presence-aware business processes and the ability to "look-ahead" to help ensure the right resources are available to resolve a particular business issue.
- Enhanced flexibility, privacy and security through the choice of automatic or manual status indication.
- Enhanced support for both the SIMPLE and XMPP protocols, helping to ensure the most comprehensive set of presence source information.
- Flexible access to presence information which can be displayed on any number of endpoints including Avaya one-X® UC clients and deskphones. In addition, Avaya presence solutions extend to a wide array of business communications applications.

Key Features

- **Robust, Aggregated Presence Information** — Avaya Aura Presence Services aggregates presence information from telephony, desktop and other applications and provides a

comprehensive view of user and device availability. As other presence sources are made available – even from third-party sources in a heterogeneous IT environment – they too can feed status information to the system to round out the user's availability profile.

- **Multi-protocol / Multi-interface Support** — Avaya Aura Presence Services supports both the SIMPLE and XMPP protocols, allowing for aggregation across a broad array of presence sources enabling a more comprehensive representation of the individual.
- **Optimizes Performance** — Leverages SIP server-to-server protocol, optimizing network performance for real time communications applications.
- **High Scalability** — Scales to support all enterprise subscribers with system throughput demanded of real time communications applications.
- **Rich Presence** — Normalizes and composes rich user presence (e.g., location, device, etc.) for applications and devices.

Learn More

To learn more about Avaya Aura Presence Services talk to your Avaya Account Manager or Authorized Partner. Also, visit us at **www.avaya.com**.

Presence Services 6.1 Supported Clients and Adopters

Avaya one-X® Communicator 6.1 H.323 version	Avaya one-X® Deskphone
Avaya one-X® Communicator 6.1 SIP version	Avaya one-X® Agent 2.5
Avaya one-X® Communicator 6.1 for Avaya Communication Server 1000	Avaya Aura® Agent Desktop 6.2
Avaya one-X® Client Enablement Services 6.1	Avaya Aura® Session Manager 6.1
	Microsoft OCS Communicator 2007
	IBM Sametime users (available in PS 6.1 Service Pack 1).

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit www.avaya.com.

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
06/11 • UC4300-04

AVAYA

The Power of We™

Avaya Aura® Session Manager

Session Manager provides the true values of converged communications, satisfying the needs of customers and employees, while helping drive down overall costs and simplifying system management. This unique platform provides the ability to quickly and easily distribute new and enhanced applications that can deliver on-going improved business performance.

Avaya Aura® Session Manager is the core of Avaya's revolutionary Session Initiated Protocol (SIP) based "cloud computing" architecture. The Session Manager platform makes it possible to unify media, modes, networks, devices, applications and real-time, actionable presence across a common infrastructure, creating the web-style on-demand access to services and applications that users increasingly expect from their enterprise communications solution.

Session Manager's SIP based routing provides more centralized control capabilities and significant improvements in scale and redundancy, enabling more cost effective and larger distributed enterprise deployments. Avaya Aura Session Manager leverages the existing PBX infrastructure helping ensure an evolutionary path forward that protects investment in today's Avaya systems and software. Session Manager provides:

- Lower total cost of ownership
- Centralized infrastructure and management
- Reduced operational costs with single routing and dial plan control
- Unified architecture combining the best of Avaya Communication Server 1000 and Avaya Aura® Communication Manager
- Integration of third-party equipment
- Replacement and upgrade for the legacy Network Routing Server (NRS)
- True converged multimedia call admission control with revolutionary video "down-speeding"
- Quick incremental application deployments without PBX upgrades

Key Customer Benefits

- Business agility driven through holistic enterprise architectures for connecting users, applications and multi-vendor solutions.
- New cost savings from SIP connectivity and reduced PSTN usage through centralized, enterprise-wide routing.
- Increased customer satisfaction by more efficiently and effectively connecting people and accelerating processes in real-time across the "customer ready" enterprise.
- Lower total cost of ownership with a centralized, easy to use management interface plus the ability to efficiently deploy enterprise-wide central applications.

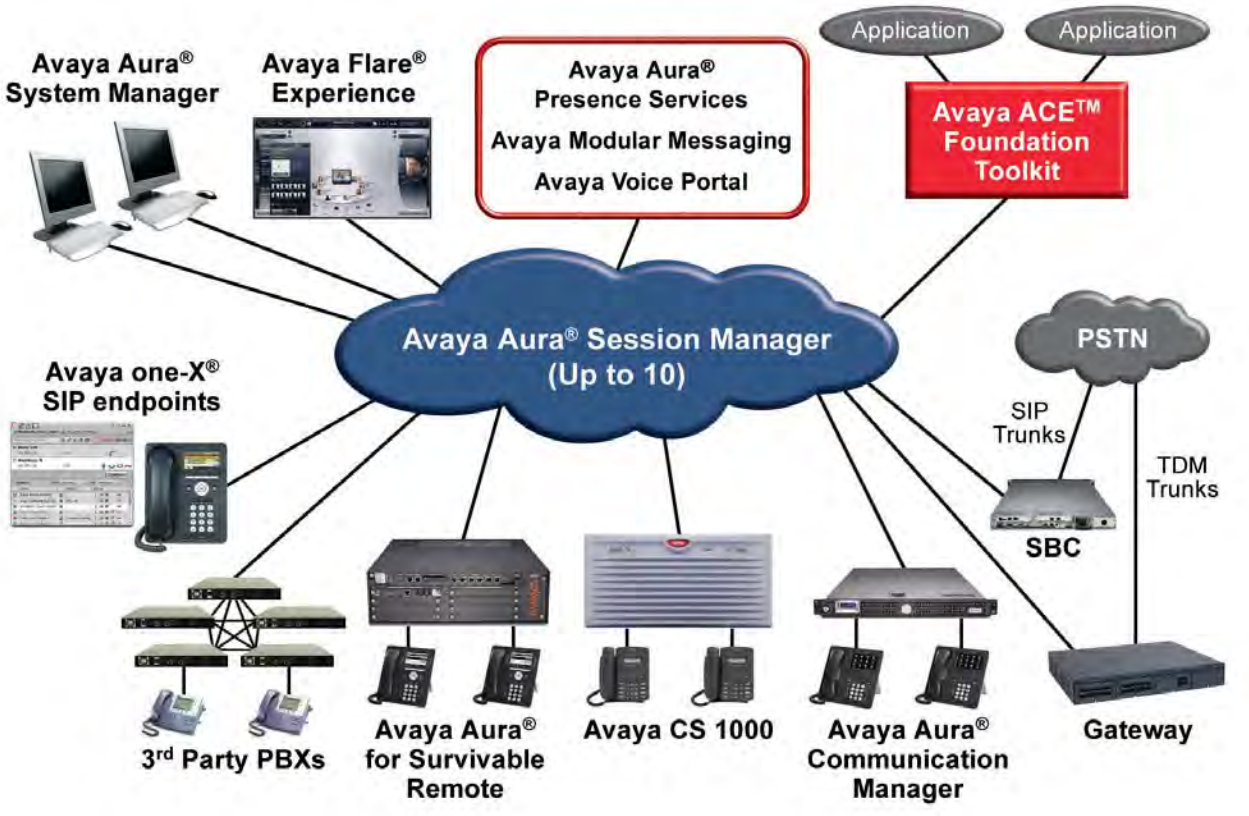
- Lower total cost of ownership
- Centralized infrastructure and management
- Reduced operational costs with single routing and dial plan control

- Unprecedented enterprise wide scalability with support for truly global deployments of up to 250,000 total end points, 100,000 SIP endpoints, 500 Communication Managers, and 25,000 locations with a single point of management.
- Solid reliability and redundancy through RFC 5626 simultaneous endpoint registrations with two core Session Managers and a third Survivable Remote "mini" Session Manager in the branch.
- Outstanding geo-redundancy with up to 10 "active-active" Session Manager instances that safely tolerate network delays up to 1000 msec.

Feature Summary

Scale and Capacity

Session Manager provides up to 25,000 locations with more than 3 Million Busy Hour Call Completions (BHCC). A single instance of Session Manager is now certified for over 350,000 BHCC of trunk and inter-location calling. In addition, up to 250,000 total and 100,000 SIP endpoints can redundantly register with the Session Manager core and access services from up to 500 Communication Manager instances and the other applications in the enterprise cloud.



Reliability and Redundancy

Avaya Aura® employs the new Internet Engineering Task Force (IETF) standard RFC 5626 to deliver multiple, simultaneous registrations to endpoints. Avaya and RFC compliant endpoints can register with multiple core Session Managers and with a local branch Avaya Aura® Survivable Remote Session Manager instance for a total of three simultaneous registrations. Combined with Avaya's unique application of the SIP Timer "B" and OPTIONs messaging, calls can be placed during network outages without dropping, and with only a delay of two seconds or less.

Session Manager also supports Network Interface Card (NIC) bonding and up to 10 geo-redundant Session Manager instances. It can tolerate up to 1,000 msec of network round trip delay while requiring less than three Mb/s throughput between Session Managers. The latest release of Session Manager also supports Call Preservation in the event of a network or Session Manager failure in the core. This capability allows calls in queue in a contact center to be processed in the normal way without any interruption or loss in service.

Support for Legacy Systems

Avaya Aura supports connectivity to older versions of Avaya Communication Server 1000, Avaya Communication Server 2100, and Avaya Business Communications Manager systems and offers the advantages of innovative "implicit" user sequencing to all endpoints on these existing systems. With Communication Server 1000 Release 7.5, implicit user sequencing is even available for intra-Communication Server 1000 calling. In addition, the core Session Managers can be used for legacy Routing Server (NRS) replacements.

Third-Party PBX Support

Avaya Aura supports connectivity to Cisco, Siemens, Alcatel Lucent, and other third-party PBXs as well as legacy Avaya H.323, analog and digital endpoints with new, innovative "implicit" user sequencing. In addition, the application sequencing capabilities of Session Manager can also be applied to the endpoints on the third-party PBXs.

Endpoint Support

Session Manager provides extensive endpoint support including the Avaya 9600 Series IP Deskphones, Avaya one-X® Communicator, Avaya 1603SW-I IP Deskphone, Avaya 4600 Series IP Deskphones (with SIP software), Avaya 1100 Series IP Deskphones, Avaya 1200 Series IP Deskphones, Avaya 1000 Series Video Conferencing Systems and the Avaya Desktop Video Device with the Avaya Flare® Experience.

Session Manager supports truly converged voice and video bandwidth management with System Manager centralized administration and control. In a converged network, each SIP entity link can be administered for fixed allocations handling voice, video and the remainder for data traffic.

Advanced Administration

Avaya Aura® System Manager 's new tab-based administration interface allows lightning-quick screen changes between operations. In addition, System Manager simultaneously supports Session Manager Releases 6.0, 6.1 and 6.2 for flawless system upgrades.

Converged Call Admission Control

Session Manager supports truly converged voice and video bandwidth management with System Manager centralized administration and control. In a converged network, each SIP entity link can be administered for fixed allocations handling voice, video and the remainder for data traffic. Flexible options allow voice to utilize unused bandwidth from video allocations, and Avaya's revolutionary new video down-speeding allows video calls to be completed when the full bandwidth requested is not available, without affecting the quality of existing calls.

Enhanced Emergency Calling

Through integration with the RedSky E911 Manager, SIP endpoints can now report their exact location down to the specific IP phone jack.

Security

Session Manager can now connect SIP entities and every endpoint in the enterprise with encrypted Transport Layer Security connections using a new software-based technology that no longer requires Transport Layer Security acceleration hardware. In addition, the System Manager Trust Management interface is easy to use, and makes sending and applying unique third-party security certificates to any SIP entity simple to accomplish. Session Manager has also moved to Red Hat Enterprise Release 5.6 with the added security updates of this newer operating system release.

SIP Connectivity

Supports SIP connections (but is not limited) to:

- Avaya Aura® Communication Manager
- Avaya Aura® Messaging and Avaya Modular Messaging
- Avaya Aura® Conferencing
- Avaya Voice Portal and Intelligent Call Routing
- Avaya Aura® Contact Center

Avaya Aura® Quick Reference Specifications			
Item	**R6.0**	**R6.1**	**R6.2**
Total Enterprise SIP Users	50,000	100,000	100,000
Total Enterprise Users	100,000	100,000	**250,000**
SIP Users/SM	10,000	12,000	12,000
SIP Users with SIP Shared Control/SM	1,000	7,500	7,500
SIP Users/CM	18,000	18,000	**36,000**
Total Enterprise Presence Users	45,000	81,000	81,000
Presence Users/SM	7,000	9,000	9,000
TLS Connections	50,000	100,000	100,000
SM Instances	6	10	10
BHCC per SM	250,000	300,000	**350,000**
Simultaneous Sessions	65,000	80,000	**90,000**
Registrations/Second per SM	NA	NA	**800**
Advanced SIP Terminal Initializations/Second per SM	NA	NA	10
Survivable Remotes	250	250	250
Communication Managers	500	500	500
Locations/Adaptations/SIP Entities	25,000	25,000	25,000
SIP Domains	1000	1000	1000
Dial Patterns/Routing Policies	250,000	300,000	300,000

- Avaya SIP Endpoints including Video Capable Endpoints
- Avaya G860 Media Gateway and AudioCodes M3000 {Note, the spelling and capitalization are correct}

° Avaya IP Office

- Avaya Secure Router 2330, Avaya Secure Router 4134 and Secure Gateways
- Avaya Aura® Session Border Controller
- ACME Packet Session Border Controller
- Third-party equipment from Cisco, Siemens, Alcatel Lucent, etc.
- Third-party SIP endpoints from Tandberg, Polycom, SNOM, Grandstream, Cisco, etc.

Dial Plan

Session Manager allows central enterprise-wide dial plans across multi-vendor PBX environments. It implements a uniform dial plan where required, or binds together multiple length dial plans in one centralized, easy-to-manage database so users do not have to change the way they dial.

Network Routing

It supports creating system-wide network routing rules to cost-effectively route calls using an enterprise's IP network, including:

- Enterprise-wide least cost routing
- Enterprise-wide alternate routing including routing around failures, following customer-provided priorities, and dynamically avoiding routes with bandwidth limits
- Enterprise-wide time of day routing
- Tail end hop off
- Toll avoidance

Application Agility

Avaya Aura enhances user productivity while increasing business agility — by enabling faster, and easier deployment of applications targeted to unique users and workgroups. The promise of Application Agility can now be delivered — with the appropriate

collaboration, conferencing, customer handling and SIP-based applications. Each application can be added to an enterprise without any modifications or upgrades to the other applications in the enterprise cloud including Communication Manager. Even third-party endpoints and trunk callers can participate in application sequencing with Session Manager's "implicit" user sequencing.

SIP Tracing

Session Manager leverages the central SIP session architecture with flexible SIP tracing and trace displays that can be manipulated and filtered as debugging requires. Tracing results can also be forwarded to Syslog servers for enhanced reporting.

SIP Monitoring

To assist with load balancing and alternate routing, Session Manager allows the configuration and implementation of monitoring controls that can be adapted and customized for each link to the Session Manager core.

Call Detail Recording

Each instance of Session Manager provides a third-party Call Detail Recording (CDR) interface, allowing enterprise-wide CDR data to be recorded and saved. New video bandwidth parameters for multimedia calls are also included in the CDR output.

Avaya Aura Session Manager Solutions

Any SIP entity may be directly connected to the Session Manager core as long as it is fully compliant with SIP standards. Solutions include:

Highly Redundant IP Telephony

Connect up to 25,000 SIP entities together including up to 500 Communication Manager instances in a redundant, centralized configuration. Avaya Aura® Session Manager allows each of the 100,000 SIP end points it supports to simultaneously register with up to three Session Manager instances, including the capability to provide full Communication Manager feature sets (well beyond the SIPPING 26 features typically supported by other vendors) in the branch when cut off from the enterprise core. With Communication Manager configured as an Evolution Server, the survivable branch can have a mix of SIP, analog, digital, and H.323 endpoints.

Third-Party PBX Integration

Session Manager not only connects to Communication Manager and Communication Server 1000, but has also been tested with Cisco UCM, Siemens Highpath, Alcatel Lucent OmniPBX, and Aastra systems with direct SIP connections. Each of these third-party PBXs can be programmed to let the Session Manager core do

the inter-PBX routing so that central dial plan, alternate and priority routing and other benefits can be enjoyed by the users of third-party PBXs as well as Avaya PBXs.

Secure Centralized Trunking

Avaya Aura® Session Manager can provide redundant connections to a SIP service provider via the G860 Gateway, Avaya Aura Session Border Controller or the ACME Packet Session Border Controller. To facilitate these connections, Session Manager provides the location based Automatic Number Identification (ANI) information needed by service providers as well as new "From" and "To" header manipulations that make multiple service provider SIP integration simple to implement.

Centralized Messaging

The load balancing and star connectivity capabilities of Session Manager allows a single Avaya Aura Messaging or Modular Messaging instance to provide service (including lighting message waiting indicator lamps) for Avaya, Cisco and other SIP-compliant PBX systems.

Centralized Conferencing

A common Avaya Aura® Conferencing server can be "shared" with the Session Manager connected PBXs. Up to three Avaya Aura Conferencing systems may be added to the enterprise cloud to expand the scalability for large conferencing needs while still providing local access to conferencing resources. This avoids mesh conferencing connections that waste bandwidth across large multi-data center enterprise configurations.

Voice Portal and Intelligent Call Routing (ICR)

Geo-redundancy and load balancing capabilities can be leveraged to provide powerful contact center solutions with Voice Portal and the optional ICR with centralized SIP trunking to the core enterprise cloud.

Sequenced Applications

With the simple addition of an application server running sequenced applications, any Avaya or third-party endpoint can enjoy application access from the enterprise cloud. In addition, installing these sequenced applications can be accomplished without costly PBX upgrades. Avaya and third parties offer a wide range of application possibilities including the Avaya Notification Service, Flexible Call Blocker, and Toll Avoidance. And with the latest release of Session Manager, sequenced applications can now be sequenced based on the media type, voice, video, text, or a combination of all three!

Learn More

To learn more about Avaya Aura Session Manager talk to your Avaya Account Manager or Authorized Partner. Also, visit us at **www.avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2012 Avaya Inc. All Rights Reserved.
Unless otherwise noted, all trademarks identified by the ®, ™, or Ð are registered trademarks, trademarks, or service marks respectively, of Avaya Inc.
03/12 • UC4302-07

AVAYA

The Power of We™

Avaya Aura® System Manager

Simple and Intuitive Solution Management for Avaya Aura®

Avaya Aura® System Manager is a key component of Avaya Aura, the Avaya architecture for next generation, people-centric collaboration. Avaya Aura delivers rich voice and video capabilities and provides a resilient, flexible and distributed network for analog, digital and IP-based communication devices. Avaya Aura System Manager is the intuitive administration and management tool that brings Avaya Aura capabilities to life.

System Manager provides an integrated solution that leverages customer data and programming across Avaya Aura, helping enterprises implement and maintain optimal results for their communications and business collaboration solutions.

Avaya Aura System Manager delivers management and administration capabilities that:

- Provide a single management and programming interface for Avaya Aura applications and systems
- Are simple, intuitive, and consistent
- Enable user data to be entered once and then shared across Avaya Aura applications
- Are tightly integrated with the enterprise IT infrastructure including identity management, security, and enterprise directory

System Manager delivers tangible savings in applications deployment, installation and on going maintenance and administration by providing the following central management functions:

- Authentication, authorization, and registration
- Logging, alarming, and SNMP management
- Common User Provisioning
- Central licensing

Key Customer Benefits

System Manager is fully integrated with the Avaya Aura architecture maximizing investments and customer benefits including:

- **Single Point of Management:** End-to-end view, single unified console with workflow-based management.
- **Reduced Complexity:** Simplifies operations for distributed multi-site networks with multiple control points.
- **Data Consistency:** Integrated provisioning helps reduce configuration errors.
- **Faster Deployment:** Benefit from accelerated application integration with standards-based interfaces.

- **Lower Total Cost of Ownership (TCO):** Reduces TCO and service support costs through automation of time-consuming, error-prone tasks.
- **Less Training:** Better skill set deployment and increased productivity through intuitive easy-to-use tools.
- **More Value:** Increased value of convergence through tight integration with the enterprise IT infrastructure including identity, security, directory, and single sign-on.

Feature Summary

Avaya System Manager delivers an array of sophisticated and high value features, tools and capabilities that include:

Common Console: A browser-based console that provides a single place for accessing all management needs including user administration, network routing policy, license management, trust management, and others.

Common User Provisioning: A single interface that provisions users on Avaya Aura® Session Manager, Avaya Aura® Communication Manager, Avaya Aura® Messaging Avaya Meeting Exchange, Avaya Aura® Conferencing, B5800 Branch Gateway and Avaya Communication Server 1000.

Enterprise Lightweight Directory Access Protocol (LDAP) Synchronization: Enables the enterprise LDAP directory to be the single source of user management, automating and synchronizing user provisioning.

Bulk Import/Export: Enables bulk user provisioning via Extensible Markup Language (XML) based files.

Role Based Access Control: Provides access control to administrators based on assigned roles.

Single Sign On: Allows the user to launch Avaya management applications without the need to re-authenticate to each one. In addition, supports the use of an enterprise's authentication authority based on LDAP, OpenSSO, and Radius, including, for example, Active Directory.

Trust Management: Establishes a Transport Layer Security (TLS) trust domain so that Avaya applications can communicate securely among themselves and with System Manager.

Logging and Alarming: Provides the ability to centrally view management logs and alarms generated by Avaya Aura® applications.

Discovery and Inventory: Discovers Avaya Aura applications and displays their inventory, including application version, device configuration, and other pertinent data.

Central Licensing: Provides central viewing and management of Avaya application licenses.

Network Routing: Creates rules to cost effectively route calls using the enterprise's IP network.

Endpoint Management: Administers endpoint configurations, such as set type and button functions.

Central Management: Manage multiple Communication Managers including:

- Announcements and audio groups
- Coverage paths
- Call Center features
- Endpoints
- Groups
- Automatic Alternate Routing (AAR), Automatic Route Selection (ARS), route patterns, and signaling groups
- System Parameters

Endpoint Central Management: Manage operational and troubleshooting functions on endpoints including:

- Busy out station
- Release station
- Test station
- List trace station
- List usage extension
- Status station
- Global search and replace of button assignments and station type changes

Geographic Redundancy:

Allows Avaya Aura element support from two geographically distant System Manager sites so that management services can be switched from one site to another, in case of WAN failure or the catastrophic failure of one of sites or servers.

Technical Specifications

Requirements and Supported Systems

- Servers:
  - » HP ProLiant DL360 G7
  - » Dell PowerEdge R610
  - » Avaya S8800 Server
- Client Browser: Microsoft Internet Explorer 7.x and 8.x; Firefox 3.5 and 3.6.

Capacity

- 250,000 total endpoints
- 100,000 SIP endpoints
- 25,000 elements
- 500 Communication Manager Feature Servers or Evolution Servers
- 250 administrator logins
- 50 simultaneous administrators

Learn More

To learn more about Avaya Aura® System Manager, talk to your Avaya Account Manager or Authorized Partner. Also, visit us at **www.avaya.com**.

The following products are supported by System Manager as their central management tool:

Supported Product	SMGR 5.2	SMGR 6.0	SMGR 6.1	SMGR 6.2	SMGR 6.3
Avaya Aura ® Contact Center (Authentication)					
Avaya Aura Contact Center 6.2				√	√
Avaya Aura Contact Center 6.3					√
Avaya Data Portfolio (Authentication, Authorization, Trust Management, Discovery, Inventory)					
Visualization, Performance, and Fault Manager (VPFM) 3.0				√	√
IP Flow Manager (IPFM) 2.0				√	√
Configuration and Orchestration Manager (COM) 3.0				√	√
B5800 Branch Gateway (Authentication (indirect), Authorization, Trust Management, Audit Logs (SMGR-B5800 EM Only), Alarming, Discovery, Inventory, User Management, Licensing, Backup/Restore)					
B5800 6.2				√	√
Call Pilot Messaging (User Management, Audit Logs (SMGR CP Comm Profile EM Only)					
Call Pilot 5.0				√	√
Avaya Aura Communication Manager (Authentication (indirect), Authorization, Audit Logs (SMGR-CM EM Only), Discovery, Inventory, User Management. Geographic Redundancy[1])					
Communication Manager 5.x	√	√	√	√	√
Communication Manager 6.0		√	√	√	√
Communication Manager 6.0.1			√	√	√
Communication Manager 6.2				√	√
Communication Manager 6.2.1 SP 4 (Avaya Aura 6.2 Feature Pack 1)					√
Communication Manager Messaging (Authentication (indirect), Authorization, Audit Logs (SMGR-CMM EM Only), User Management)					
Communication Manager Messaging 5.2	√	√	√	√	√
Communication Manager Messaging 6.0		√	√	√	√
Communication Manager Messaging 6.0.1			√	√	√
Communication Manager Messaging 6.2				√	√
Communication Manager Messaging 6.2.1 SP 4 (Avaya Aura 6.2 Feature Pack 1)					√
Communication Server 1000 (Authentication, Authorization, Trust Management, Audit Logging, Log Harvesting, Alarming, Discovery, Inventory, User Management, Geographic Redundncy[2])					
Communication Server 1000 7.5				√	√[3]
Meeting Exchange Conferencing (Authentication, Trust Management, Audit Logging, Log Harvesting, Alarming, Discovery, Inventory, Serviceability Agent[4])					
Meeting Exchange Conferencing 6.0		√	√	√	√
Meeting Exchange Conferencing 6.2					√
Avaya Aura Conferencing (Authentication, Authorization, Trust Management, Audit Logs (SMGR-AAC EM Only), Alarming, User Management, Licensing)					
Avaya Aura Conferencing 6.0				√	√
Avaya Aura Conferencing 7.0					√ [5]
M3000 High Density Trunk Gateway (Alarming, Discovery, Inventory)					
M3000 HDTG 2.0				√	√
Avaya Aura Messaging (Authentication (indirect), Authorization, Audit Logs (SMGR-AAM EM Only) User Management)					
Avaya Aura Messaging 6.0		√	√	√	√
Avaya Aura Messaging 6.1			√	√	√
Avaya Aura Messaging 6.2				√	√

Supported Product	SMGR 5.2	SMGR 6.0	SMGR 6.1	SMGR 6.2	SMGR 6.3
Modular Messaging (Message Storage Server) (Authentication (indirect), Authorization, SMGR-MM EM Only) User Management					
Modular Messaging 5.x	√	√	√	√	√
Avaya one-X Agent® Central Management Server (CAM) (Alarming, Audit Logging, User Management Only User management for Avaya one-X Agent SIP Clients)[6]					
Avaya one-X Agent 2.5.1 (96x1SIPCC shared control mode)			√		
Avaya one-X Agent Agent 2.5.2 (96x1SIPCC shared control mode)				√	√
Avaya one-X Client Enablement Services (Trust Management, Licensing)					
Avaya one-X Client Enablement Services 6.1			√	√	
Avaya one-X Client Enablement Services 6.2				√	√
Avaya Aura Presence Services (Authentication, Authorization, Trust Management, Audit Logging, Alarming, Discovery, Inventory, User Management (indirect)[7], Licensing, Serviceability Agent[8])					
Presence Services 6.0		√	√	√	√
Presence Services 6.1			√	√	√
Presence Services 6.1.4 (SP4)				√	√
Avaya Aura Session Manager (Authentication, Authorization[9], Trust Management, Audit Logging, Log Harvesting, Alarming, Discovery, Inventory, User Management, Licensing, Geographic Redundancy[10], Serviceability Agen [11])					
Session Manager 5.2	√	√			
Session Manager 6.0		√	√	√	√
Session Manager 6.1			√	√	√
Session Manager 6.2				√	√
Session Manager 6.3					√

Table 10: System Manager Supported Products

[1] CM 6.x supports management services from a Secondary SMGR starting in SMGR release 6.3.

[2] CS1000 7.5 supports a subset management services from a Secondary SMGR starting in SMGR release 6.3.

[3] CS1000 Alarm Collection support starting on System Manager 6.3.

[4] Serviceability Agent supported in SMGR 6.2, PS 6.1, SM 6.2 and MX 6.2 and later releases.

[5] AAC Trust Management support starting on System Manager 6.

[6] Only User management for Avaya one-X Agent SIP Clients

[7] User management for Presence Services is done using data fill that is part of the user provisioning of other application's communication profiles.

[8] Serviceability Agent supported in SMGR 6.2, PS 6.1, SM 6.2 and MX 6.2 and later releases.

[9] Authorization – RBAC of Session Manager support introduced in SMGR 6.3 and SM 6.3.

[10] SM Active-Standby Geographic Redundancy supported in SMGR 6.3 and SM6.3.

[11] Serviceability Agent supported in SMGR 6.2, PS 6.1, SM 6.2 and MX 6.2 and later releases.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
11/12 • UC4647-01

AVAYA

The Power of We™

45% of consumers prefer to deal with organizations over the internet rather than by phone.

(from "The Autonomous Customer" survey conducted by Avaya and BT)

Avaya Automated Chat

Delivering a Better Online Experience

Avaya helps your customers get the online service they need quickly and cost effectively, freeing your agents to focus on the most important issues. So customer satisfaction can go up as your costs go down.

With Avaya Automated Chat, customers can have better online experiences and agents can be more productive. So everyone is better served.

Customer loyalty is more important than ever to forward-looking companies. But delivering a superior customer experience can be difficult, and not every online customer care technology can provide the foundation that you need for service excellence. At the same time, contact center complexity is growing. Each new vendor requires support and may not integrate well with existing technologies or business processes. And agents are burdened with learning, retaining and accessing increasingly complex information. But the most crucial problem is customer dissatisfaction.

Demand for online self-service is growing. In a recent survey conducted by Avaya and BT[1], the data shows a 23% increase in the use of web chat in the US and UK since 2010. Some 45% of consumers prefer to deal with organizations over the internet rather than by phone. Indicating a further shift to online servicing, 43% prefer using email/websites when dealing with complex questions, and 68% would like web chat offered while they're on the internet.

Avaya Automated Chat provides dramatic advantages over current chat systems because it can deliver fast, accurate answers in a number of ways: *through an automated system, or a live agent, or both*. All of which helps agents deliver a responsive, personalized customer experience—each and every time. And the system can grow with your business using the intelligence derived from the day-to-day operations, allowing the solution to become more effective over time. Simply put, Avaya Automated Chat enables your company to differentiate through superior service — while helping cut the cost and complexity of customer engagement.

[1]The Autonomous Customer, Avaya and BT (British Telecom) 2013.

9/11/2013 12:07 PM BidSync

Avaya Automated Chat understands the meaning and context of typed comments, and its patented system of natural language processing and high-value answer base will deliver accurate responses faster.

With Avaya Automated Chat customer experiences can be enhanced:

- **Faster, better answers** to customer questions using natural language
- **Accelerated conversations** that are more productive for both sides

And your company can benefit:

- **Reduced training costs** due to agent coaching
- **Agility** to add new programs and information quickly and easily
- **Improved operational efficiency** without adding additional headcount

Avaya Automated Chat: Transform Customer Care into a Competitive Advantage

Avaya Automated Chat understands the meaning and context of typed comments, and its patented system of natural language processing and high-value answer base will deliver accurate responses faster. It arms your agents so that they can answer questions accurately, intelligently, and instantly, making online service more consistent, resulting in a better customer experience. Avaya is the first company to focus the full force of online technologies — context-based natural-language processing, integration with a variety of knowledge management systems, online communities, and more — with a single goal: revolutionizing the cost and quality of web customer service.

Avaya Automated Chat is a ground breaking technology in that It combines automated responses and live agent assistance into a powerful customer service tool. The intelligence provided in the conversation engine focuses on clarifying the customer needs more quickly and delivering a more accurate response. Or if required, by escalating the conversation automatically to a skilled live agent if:

- the automated engine is no longer confident that it has the appropriate response
- the customer indicates the need to speak with a live agent
- the engine senses customer frustration or dissatisfaction

Avaya Automated Chat also provides continuity when an agent joins the conversation by delivering the full chat transcript to the agent. After a live agent is engaged, the system becomes a coaching tool offering suggested responses to live agents. Agents can accept the suggestion or a portion of the suggestion, or craft their own ad-hoc response. The entire interaction is fluid, rapid and consistent with your business rules and brand guidelines. The result: your company can deliver a more consistent, productive, and satisfying customer experience each and every time. You can transform the contact center from a cost center into a competitive advantage.

For businesses that are looking for agent productivity and coaching tools, Avaya offers a similar knowledge engine tool called the Avaya Answer Desk. This optional license allows non-chat agents to interact with the automation engine to quickly get answers for their non-chat customer contacts. And with the same great Automated Chat conversation and knowledge engine, businesses who want to improve agent productivity can utilize this Web based agent tool to enhance customer service on any channel.

It's Like Chat. Only it Works.

How do your customers know you're using Avaya Automated Chat? Suddenly they're getting the right answers, quickly, every time.

Fast, Flexible Deployment Options.

The Avaya Automated Chat solution offers a simple deployment model and well-structured application programming interfaces (API's) that enable it to work well with existing customer service systems. It can be deployed incrementally, starting with a live chat-only solution, and adding automation at a later point, optimizing existing contact center processes.

Avaya Automated Chat can be readily integrated with existing CRM systems to maximize your investment and enhance Avaya Automated Chat's powerful capabilities. And the expertise of Avaya professional services staff helps ensure that systems will be up and running quickly.

Avaya offers integration with world class Customer Relationship Management (CRM), co-browsing, and knowledge management solutions. In addition to the solutions listed below, Avaya can offer custom integration to meet the requirements of any business.

Avaya's world-class product and service offerings include:

- **Implementation**: A highly efficient implementation strategy with rapid deployment and excellent results from day one
- **Pricing**: Flexible pricing model that is charged per month, on a per agent and a per concurrent session basis
- **Hosting options**: Avaya software as a service is hosted from an Avaya data center so there's no footprint required. Either way it's an enterprise-ready solution that scales to meet your needs.

It's Like Chat. Only it Works.

Automation when you want it, a live agent when you don't.

Avaya Automated Chat gives businesses the best of both worlds.

Automation when you want it, a live agent when you don't.

Avaya Automated Chat gives businesses the best of both worlds.

Using automation to handle routine customer inquiries can not only make customers happy to receive fast and accurate information, but can also improve agent productivity. An even more impressive feature is the seamless blending of automated and live agent assistance. Because customer satisfaction levels can drop when they can't connect with a live agent, Avaya Automated Chat's patented automatic escalation feature can make that a non-issue. It's a win, win situation — customers are happier and better served, while agents and businesses can do more without increasing expenses.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
02/13 • UC7220

AVAYA

The Power of We™

Avaya B149 Conference Phone

Simple, sophisticated solution extends crystal clear sound and smart productivity features to private offices as well as small and midsize conference rooms

The Avaya B100 Series Conference Phones offer sophisticated and easy to use communication solutions for small to large companies. Providing superior voice quality with the award winning Omnisound® audio technology, the B100 Series Conference Phones cost effectively offer a variety of low bandwidth, plug-and play deployment options that address different user groups within your organization; the unique needs of small business executives, managers and staff are each supported with a broad choice of models.

With a sleek appearance and suite of smart productivity features, the B100 Series Conference Phones are an ideal choice for companies adding endpoints to their existing infrastructure or deploying a new network. These conference phones can be used for scheduled meetings and training sessions or for impromptu calls between globally dispersed offices and remote workers.

Avaya B149 Conference Phone

Crystal Clear Sound: Omnisound® audio technology provides clear transmission during meetings – so you and your team don't miss any part of the discussion. Full duplex transmits and receives sound simultaneously to prevent audio clipping; 360° surround sound as well as powerful speakers optimize audio pick-up and broadcasting. Noise suppression filters cut static background noise and an equalizer lets you adjust pitch to suit your preference.

Plug and Play simplicity: Connect the Avaya B149 Conference Phone to an analog telephone line and to a power outlet and you are ready to go! Quick and easy. Also included is a conference guide, perfect for making multi-party calls, and a handy phone book to store your key contacts.

Flexibility and Productivity Enhancing Features: Enhance web conferencing, video and other communications environments. The B149 Conference Phone is a versatile high performer that complements your existing solutions, which can be easily redeployed as your business grows or as needs change.

The Avaya B149 Conference Phone

Best suited for small to midsize conference rooms with up to 10 people the B149 Conference Phone helps improve employee productivity and collaboration between customers, partners and suppliers with features including:

- OmniSound® — powerful crystal clear sound to provide seamless productivity
- A Conference Guide that easily helps you set up group calls with the touch of a button
- Optional expansion microphones that increase range (and number of participants) up to 750 sq ft
- SD-memory card to record your meetings and conference calls for playback or to archive for later use
- A Phone Book for quick access to your key contacts

Specifications

AUDIO FEATURES

- OmniSound®.
- Microphone: Omni-directional, 360˚.
- Pickup range: up to 30 m^2 (320 sq ft), > 10 people.
- Volume: 90 db SPL 0.5 m (RMS).
- Frequency response: 200-3400 Hz.
- Equalizer: soft, neutral and bright.

CONNECTIVITY

- Analog phone connection: modular 6/6 RJ11 to an analog PBX
- Power supply: AC adapter 100-240 V AC/14 V DC, 6 m.
- Expansion microphones: modular 4/4.

DIRECTORY

- Phone book: 50 contacts.
- Call groups: 20 groups.

RECORDING

- Supports SD memory cards up to 2 GB

DIMENSIONS

- Size: Diameter 240 mm, height 77 mm
- Weight: 1 kg.

COLOR

- Charcoal black.

DISPLAY AND KEYPAD

- Display: Illuminated graphics LCD, 128x64.
- Keypad: Alphanumeric 0-9, *, #, off/F, on, mute, hold, volume up, volume down, 5 buttons for menu navigation, phone book, conference guide.

PLATFORM SUPPORT

- Avaya IP Office Rls 7.0+
- Avaya Communication Manager Rls 5.0+
- Avaya Communication Server 1000 Rls 6.0+
- Avaya Aura Rls 6.0+

LANGUAGE VERSIONS

- User Interface: Danish, English, Finnish, French, Italian, Dutch, Norwegian, Polish, Spanish, Swedish, Turkish, German, Russian.

CONTENTS

- B149, AC adapter, dual analog line and power cable

OPTIONAL ACCESSORIES

- Expansion microphones extend the voice pickup range from 320 to up to 750 sq ft (30-70 m2).
- Power extension cable
- Security lock and cable
- Wall mounting bracket.

Learn More

With more than 100 years as a leader in communications, Avaya can help your company maximize productivity with the intelligent communications solutions specific to the needs of your workforce.

To learn more about the B100 Series Conference Phones, contact your Avaya Account Manager, Avaya Authorized Partner or visit **avaya.com** for videos, case studies and other information showcasing Avaya solutions in action. www.avaya.com

With a sleek appearance and suite of smart productivity features, the B100 Series Conference Phones are an ideal choice for companies adding endpoints to their existing infrastructure or deploying a new network.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
11/11 • UC4712-01

AVAYA

The Power of We™

Avaya B159 Conference Phone

Simple, sophisticated solution extends crystal clear sound and smart productivity features to board rooms and large conference rooms

The Avaya B100 Series Conference Phones offer sophisticated and easy to use communication solutions for small to large companies. Providing superior voice quality with the award winning Omnisound® audio technology, the B100 Series Conference Phones cost effectively offer a variety of low bandwidth, plug-and play deployment options, that address the unique needs of diverse users within your organization with a broad choice of models.

With a sleek appearance and suite of smart productivity features, the B100 Series Conference Phones are an ideal choices for companies adding endpoints to their existing infrastructure or deploying a new network. These conference phones can be used for scheduled meetings and training sessions or for impromptu calls between globally dispersed offices and remote workers.

Avaya B159 Conference Phone

Crystal Clear Sound: Omnisound® audio technology provides clear transmission during meetings – so you and your team don't miss any part of the discussion. Full duplex transmits and receives sound simultaneously to prevent audio clipping; 360° surround sound and powerful speakers optimize audio pick-up and broadcasting. Noise suppression filters cut static background noise and an equalizer lets you adjust pitch to suit your preference.

Plug and Play simplicity: Connect the Avaya B159 Conference Phone to a telephone line and a power outlet and you are ready to go! Line mode lets you switch and combine analog, mobile and USB connections (so you can make VOIP calls with the B159 Conference Phone through a PC). It's easy. Also included is a conference guide, perfect for making multi-party calls, and a handy phone book to store your key contacts.

Flexibility and Productivity Enhancing Features: Enhance web conferencing, video and other communications environments. The B159 Conference Phone is a versatile high performer that complements your existing solutions and can be easily redeployed as your business grows or as needs change.

The Avaya B159 Conference Phone

Best suited for board rooms and large conference rooms with groups greater than 10 people, the B159 Conference Phone helps improve employee productivity and collaboration between customers, partners and suppliers with features including:

- OmniSound® — powerful crystal clear sound to provide seamless productivity
- Line Mode selector — allows you to switch and combine analog, VoIP or mobile connections (extending your mobile's speakerphone capabilities)
- A Conference Guide that easily helps you set up group calls with the touch of a button
- Optional expansion microphones that increase range (and number of participants) up to 750 sq ft
- SD-memory card to record your meetings and conference calls for playback or to archive for later use
- A Phone Book for quick access to your key contacts
- Optional wireless headset connection and PA system to meet the sound requirements for larger groups
- Upgradeable software to meet future needs

Specifications

AUDIO FEATURES

- OmniSound® wideband via USB.
- Omnidirectional microphone. Microphone: analog line 200–3300 Hz, USB 200–7000 Hz.
- Pickup range: up to 30 m^2 (320 sq ft), > 10 persons.
- Loudspeakers: volume 90 db SPL 0.5 m, 150-7000 Hz.
- Equalizer: soft, neutral and bright.

CONNECTIVITY

- Analog phone connection: modular 6/6 RJ11 to an analog PBX.
- PC connectivity: USB 2.0.
- GSM and DECT connectivity: 6/6 DEC.
- Power supply: Transformer 100-240 V AC/14 V DC.
- Expansion microphones: modular 4/4.
- Auxiliary: Modular 4/4 for wireless headset or PA

DIRECTORY

- Phone book: 50 contacts.
- Call groups: 20 groups.

RECORDING

- Supports SD memory cards up to 2 GB

DIMENSIONS

- Size: Diameter 240 mm, height 77 mm
- Weight: 1 kg.

COLOR

- Charcoal black.

DISPLAY AND KEYPAD

- Display: Illuminated graphics LCD, 128x64.
- Keypad: Alphanumeric 0–9, *, on/R, off, mute, hold, volume up, volume down, 5 buttons for menu navigation, line (line mode), and conference guide.

PLATFORM SUPPORT

- Avaya IP Office Rls 7.0+
- Avaya Communication Manager Rls 5.0+
- Avaya Communication Server 1000 Rls 6.0+
- Avaya Aura Rls 6.0+

LANGUAGE VERSIONS

- User Interface: Danish, English, Finnish, French, Italian, Dutch, Norwegian, Polish, Spanish, Swedish, Turkish, German, Russian.

CONTENTS

- B159, power cable and AC adapter,

OPTIONAL ACCESSORIES

- Expansion microphones extend the voice pickup range from 320 to up to 750 sq ft (30-70 m2)
- Dual analog line and power extension cable
- Video systems connection cable
- Mobile phone cables
- Power extension cable
- PA Interface box
- Security lock and cable
- Wall mounting bracket

Learn More

With more than 100 years as a leader in communications, Avaya can help your company maximize productivity with the intelligent communications solutions specific to the needs of your workforce. To learn more about the B100 Series Conference Phones, contact your Avaya Account Manager, Avaya Authorized Partner or visit **avaya.com** for videos, case studies and other information showcasing Avaya solutions in action.

With a sleek appearance and suite of smart productivity features, the B100 Series Conference Phones are an ideal choices for companies adding endpoints to their existing infrastructure or deploying a new network.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
11/11 • UC4713-01

AVAYA

The Power of We™

Avaya B179 SIP Conference Phone

Simple, sophisticated solution extends crystal clear sound and smart productivity features to board rooms and large conference rooms

The Avaya B100 Series Conference Phones offer sophisticated and easy to use communication solutions for small to large companies. Providing superior voice quality with the award winning Omnisound® audio technology, the B100 Series Conference Phones cost effectively offer a variety of low bandwidth, plug-and play deployment options, that address the unique needs of diverse users within your organization with a broad choice of models.

With a sleek appearance and suite of smart productivity features, the B100 Series Conference Phones are an ideal choice for companies adding endpoints to their existing infrastructure or deploying a new network. These conference phones can be used to complement scheduled meetings and training sessions or for impromptu calls between globally dispersed offices and remote workers.

Avaya B179 SIP Conference Phone

Crystal Clear Sound: Omnisound audio technology guarantees clear transmission during meetings – so you and your team don't miss any part of the discussion. Full Duplex transmits and receives sound simultaneously to prevent audio clipping; 360° surround sound and powerful speakers optimize audio pick-up and broadcasting. Noise suppression filters cut static background noise and an equalizer lets you adjust pitch to suit your preference.

Plug and Play simplicity: Connect the Avaya B179 SIP Conference Phone to an Ethernet line (and to a power outlet if you don't have Power over Ethernet PoE) and you are ready to go! It's easy. Also included is a conference guide, perfect for making multi-party calls, and a handy phone book to store your key contacts.

Flexibility and Productivity Enhancing Features: Enhance web conferencing, video and other communications environments. The B179 SIP Conference Phone is a versatile high performer that complements your existing solutions, which can be easily redeployed as your business grows or as needs change.

The Avaya B179 SIP Conference Phone

Best suited for board rooms and large conference rooms with groups greater than 10 people, the B179 SIP Conference Phone helps improve employee productivity and collaboration between customers, partners and suppliers with features including:

- OmniSound® — powerful crystal clear sound to provide seamless productivity
- SIP based for powerful integration with Avaya Aura as well as third party networks, also supports PoE
- Web-based configuration to import/export contacts and settings
- A Conference Guide that easily helps you set up group calls with the touch of a button
- Optional expansion microphones that increase range (and number of participants) up to 750 sq ft
- SD-memory card to record your meetings and conference calls for playback or to archive for later use
- A Phone Book for quick access to your key contacts
- User profiles for storing personal contact details and settings
- Optional wireless headset connection and PA system to meet the sound requirements for larger groups
- Hold up-to 5-way conference calls

Specifications

AUDIO FEATURES

- OmniSound® Wideband.
- Omnidirectional microphone.
- Pick-Up Range: Up to 320 sq ft > 10 people
- Speakers: frequency range: 200–7000 Hz
- Volume: Max 90 db SPL 0.5 m
- Equalizer: soft, neutral and bright.

CONNECTIVITY

- Ethernet: RJ45, AUX (headset/PA)
- Expansion microphones

POWER

- Power over Ethernet IEEE 802.3af (PoE Class 3)
- Transformer: 100–240 V AC/13.5 V DC

APPROVALS

- Electrical safety: EN 60950-1:2006, ANSI/UL 60950-1-2002,
- CAN/CSA-C22.2, no. 60950-1-03 EMC/Radio: EN 301 489-3 V1.4.1 (2002-08),EN 301 489-1 V1.6.1 (2005-09), FCC Part 15 subpart B class A, FCC Part 15 subpart C, EN 300220-1:2000, EN 300220-2:2000 RoHS

DIRECTORY

- Phone book: < 1,000 entries per profile
- Export/import of contacts, Call list
- Support for LDAP external directory

- User profile: 4 profiles (password protected)
- Call groups: 20 groups.

RECORDING

- Support SD memory card (SDHC)

DIMENSIONS

- Size: Diameter 240 mm, height 77 mm
- Weight: 2.2 lb

COLOR

- Licorice black.

DISPLAY AND KEYPAD

- Display: Illuminated graphics LCD, 128x64PX (5x2,5 in).
- Keypad: Alphanumeric 0–9, *, on/R, off, mute, hold, volume up, volume down, 5 buttons for menu navigation, line (line mode), and conference guide.

AVAYA PLATFORM SUPPORT

- Avaya Aura (Communication Manager Rls 6.x with Session Manager 6.x)
- Avaya Communication Server 1000 Rls 6.0+
- Avaya IP Office Rls 7.0+
- Avaya Communication Manager Rls 5.0 and 5.2.1 with SES 5.2.1

INTEROPERABILITY

- SIP 2.0, RFC3261 and companion RFCS

NETWORK AND COMMUNICATION

- Network addressing: DHCP and static IP
- NAT traversal: STUN, ICE and TURN
- Connection protocol: SIP 2.0 (RFC 3261 and companion RFCs)
- Transport: UDP, TCP, TLS and SIPS
- Security: 802.1x Authentification, SRTP and TLS
- Quality of Service: DiffServ, VLAN 802.1p/Q
- Audio support Codecs: G722, G711 A-law, G711 Q-law, G729ab
- DTMF tone generation: RFC, SIP INFO, In-band
- Time servers: NTP and SNTP Daylight saving: Configurable for automatic adjustments

CONFIGURATION AND PROVISIONING

- Configuration: Via integrated web server, HTTP or HTTPS
- Separate user and administrator login for secure configuration.
- Support for device management for easy configuration and updating of multiple conference phones.

LANGUAGE VERSIONS

- User Interface: Danish, English, Finnish, French, Italian, Dutch, Norwegian, Polish, Spanish, Swedish, Turkish, German, Russian, Chinese, Korean, Japanese and Portugese.

Best suited for board rooms and large conference rooms with groups greater than 10 people, the B179 SIP Conference Phone helps improve employee productivity and collaboration between customers, partners and suppliers.

CONTENTS

- B179, power cable and AC adapter, Ethernet network cable, memory card 2GB

OPTIONAL ACCESSORIES

- Expansion microphone extends the voice pickup range from 320 to up to 750 sq ft (30-70 m2).
- PA Interface box
- Security Lock and Cable
- Wall Mounting Bracket

Learn More

With more than 100 years as a leader in communications, Avaya can help your company maximize productivity with the intelligent communications solutions specific to the needs of your workforce. To learn more about the B100 Series Conference Phones, contact your Avaya Account Manager, Avaya Authorized Partner or visit **avaya.com** for videos, case studies and other information showcasing Avaya solutions in action.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
11/12 • UC4714-02

AVAYA

avaya.com

Avaya Call Management System

Avaya Call Management System (CMS) is an integrated analysis and reporting solution to help you keep in touch with virtually everything that's going on in your contact center — whether you want to evaluate the performance of one agent, a group of agents, a single contact center, or multiple locations around the world. CMS provides robust real-time monitoring and historical reporting, including custom reporting, task scheduling, exception notification, threshold warning, administration and configuration, and long term ACD data storage, working with one or more of your Avaya Media Servers and Gateways.

CMS helps you optimize the efficiency of your call center by allowing you to:

Manage increased call volume without adding staff.

CMS gives you the power to monitor and analyze virtually everything that's happening in your contact center—from wait times to average answer speeds, to percent reduction over the past year in abandoned call times. Using real-time information, CMS provides you with the ability to make "on-the-fly" decisions to redistribute your expensive human resources, or redirect calls. Or you can leverage historical data to develop new and improved procedures that will increase performance and minimize costs.

Enhance productivity while keeping close control on costs.

Avaya Call Management System will help you meet your key business objectives now—and grow with you into the future. Because all of our solutions are easy to use and quick to deploy, you'll start enjoying your return on investment right away. You can also take advantage of historical reports to analyze trends, establish performance benchmarks, and plan new, more effective marketing or customer service campaigns.

Improve customer satisfaction.

When you use Avaya CMS to leverage information to improve staffing, call flow, and service levels — you'll win your customers' loyalty with your superior service and support.

Recruit and retain top agents.

Using information to create a more efficient and effective contact center in support of both excellence and quality related metrics has the proactive side benefit of creating a better place to work and grow, thereby increasing your ability to attract and retain optimal talent.

Support Business Continuity.

Avaya CMS provides two options for contact center data resiliency. With High Availability CMS, two systems operate in tandem, providing for data redundancy. The Survivable CMS offer provides for business continuity in multi-location contact centers, providing for continued operation in the event of a disaster at the controlling site.

Avaya CMS is flexible and scalable. It's ideal for small single-location contact centers, large multi-location applications—or anything in between. You can use Avaya CMS to analyze the performance of a single agent, a specific skill, thousands of agents or agent skills—on up to eight Automatic Call Distribution (ACD) systems.

Add Avaya CMS Supervisor and enjoy even more flexibility and convenience

Avaya CMS Supervisor enables you to use a PC to access all the reporting and administrative power of Avaya CMS—with a familiar graphical user interface in a Microsoft® Windows® environment that runs on Windows 2000, Windows XP, Windows Vista, and Windows 7, or thin client through Citrix™ XenApp 5 with Windows 2003 server.

Avaya CMS Supervisor gives you the power to be immediately responsive—anytime, anywhere.

Avaya CMS Supervisor enables you to monitor contact center performance and activity from a PC, whether it's within your contact center, at home, or on the road.

Avaya CMS Supervisor has powerful tools that let managers monitor—in real time—any area of contact center performance, such as the number of abandoned calls, average hold time, and number of calls in queue. A colorful icon on the PC screen alerts managers whenever any thresholds are being approached or have been exceeded. Managers can then immediately respond by redirecting contact center resources to increase agent productivity and respond more effectively to the influx of incoming calls.

All Avaya products are easy to integrate

Avaya CMS Supervisor supports your existing TCP/IP Ethernet LAN connections for access to the CMS server Avaya CMS Supervisor can be loaded onto your server and downloaded across the LAN to your networked PCs. Instantly access your critical data anytime… anywhere.

- Analyze call flow.
- Match your personnel resources and skills to call volumes and caller needs.
- Identify areas where you can increase productivity and reduce costs.
- Plan new marketing and promotional campaigns.
- Identify training needs.
- Take fast, effective action to improve the overall efficiency of your contact center operations.
- Integrate data with mainframe-based documents such as sales and marketing reports.

Includes:

- More than 200 preformatted reports help you see where you are in achieving your critical objectives. In addition, our Report Designer custom reports package, included for no additional charge, lets you modify those reports or create your own, to fit your unique requirements.
- IBM® Informix® ODBC and JDBC drivers allow you to access data directly from CMS for easy integration with other corporate data.
- Visual Vectors graphical vector editing tool for fast, easy vector creation and administration.
- Support for increased capacities of Avaya Call Center 6.0.

Contact your Avaya Account Manager or Authorized Partner today for more information. Or visit us at **avaya.com** and click on Contact Centers.

SYSTEM REQUIREMENTS:

- The Sun SPARC Enterprise T5120 or T5220 server.
- Avaya CMS can support up to 800 simultaneous Avaya CMS Supervisor log-ins, depending on the hardware platform in use.

CMS SUPERVISOR CLIENT REQUIREMENTS:

Citrix XenApp 5™ with Windows 2003 server (for thin client), or the following for desktop deployment:

- Pentium® II or compatible 233 MHz (minimum) or 500 MHz (recommended) or higher processor
- 64 MB RAM (minimum), or 256 MB or higher (recommended)
- Microsoft® Windows® 2000, Windows XP, Windows Vista Enterprise, and Windows 7.
- 50 MB disk space
- CD-ROM installation (unless Avaya CMS Supervisor is launched from a server)
- LAN connectivity—Winsock 1.1 or later compliant network TCP/IP protocol stack

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit www.avaya.com.

AVAYA
The Power of We™

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries.
All trademarks identified by ®, TM or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein.
References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
07/11 • GCC1084-06

avaya.com

AVAYA

The Power of We™

Avaya Cloud Enablement for Video

Solving Video Deployment Challenges from the Cloud

The Challenge of Deploying Video Services

Businesses today use a variety of technologies to connect face-to-face over the Internet. Though HD telepresence is a reality, deploying video services has its challenges.

Cloud service providers must contend with:

- High initial capital and operational expenses of deploying a VaaS cloud offering
- Justifying ROI
- Administration complexity
- Integrating with billing and infrastructure in a multi-tenant service offering
- Lack of customer interest due to perceived hassles and lack of capital

Meanwhile, enterprises worry about:

- Video and audio quality
- Limited physical space compared to demand
- Liability
- Ease of setup and use
- System compatibility
- Being able to collaborate with partners, vendors, and other third parties

A Better Way: Video-as-a-Service

Turn these negatives into positives by offering superb video communications as a paid service and allow your customers to enjoy full HD video conferencing without the costs and technical expertise required to install and maintain individual video infrastructures. With Avaya Cloud Enablement for Video, cloud service providers host the video infrastructure while their customers deploy their own endpoints such as telepresence systems, room systems, PCs, and mobile devices.

Avaya Cloud Enablement for Video

What Makes Avaya Cloud Enablement for Video Different?

Not only does Avaya Cloud Enablement for Video allow cloud service providers to offer video as a service, it has a number of unique differentiators including:

- BYOD – Users simply click on a link, install the browser plug-in or app on their mobile device and connect.
- Internal and External Collaboration – Internal and external users of room systems, desktop systems, and mobile devices alike can collaborate and share data from virtually anywhere.
- Open API – The most comprehensive open API in the market today allows for full flexibility and service customization allowing partner branding on the client and backend integration into the provider's backend management system.
- Most Powerful MCU in the Industry – With its unique hybrid software-hardware architecture, Avaya's MCU offers unparalleled video quality while delivering the highest port density available. This MCU revolutionizes the way transcoded video is processed, doubling the performance of traditional MCUs and slashing energy consumption in half.

- Microsoft-Qualified Gateway – Avaya Cloud Enablement for Video is the only Microsoft-qualified gateway for extending standards-based video room systems to Lync video users.
- Innovative Slider – The unique content 'slider' for data collaboration provides participants with the ability to go back and review previously presented materials without interrupting the presenter.
- High Availability, Redundancy, and Security – Features include encryption support at all levels, unique virtual cross chassis IP-based backplane, Scopia Management middleware, and multiple VLAN support for traffic separation and out of band management.

What Makes Avaya Cloud Enablement for Video Better?

Unique among its competitors, Avaya Cloud Enablement for Video consistently delivers a number of important benefits.

Across the Board H.264 SVC: The industry's first comprehensive, high profile Scalable Video Coding (SVC) solution counters network errors and packet drops, improves network resiliency, reduces bandwidth consumption by 30 to 50 percent, and ensures high quality communication across the entire infrastructure and endpoints.

Quality of Experience: Using a set of algorithms, Avaya Cloud Enablement for Video maintains a high quality of experience for those connecting to the cloud service provider's data center, including the NetSense end-to-end quality monitoring and network adaptation capability.

Customization: With its API, Avaya Cloud Enablement for Video integrates seamlessly with existing backend systems. In addition, you can customize the look of the interface to match your brand identity.

Unparalleled Scalability: Add MCUs, endpoints, mobile and desktop users, or additional infrastructure to support more users as demand grows. Avaya Cloud Enablement for Video offers unlimited scalability and load balancing to ensure that MCUs do not exceed capacity. Multiple MCUs act as a single virtual MCU. In addition, video

infrastructures can be distributed over several sites or hosted in one centralized site.

Interoperability: While other systems limit interoperability, Avaya Cloud Enablement for Video works with all devices, protocols, and video vendors including LifeSize, Polycom, and Cisco. By ensuring full compliance and unmatched interoperability with any IP/ISDN device, services providers can reach out and offer services to a wider range of customers. Avaya Cloud Enablement for Video can also connect to Microsoft Lync, IBM Sametime, Avaya Aura®, and other unified communications systems.

Accessibility/Simplicity: Avaya Cloud Enablement for Video is easy to deploy and use, allowing everyone to connect to a virtual room regardless of location or device type, and features a unified interface across all devices and easy-to-use onscreen menus.

Ease of Management: With its video federation capability, Avaya Cloud Enablement for Video blends system management with third party endpoint management into a single suite, allowing for multi-vendor endpoint remote management, centralized trouble management and tracking, detailed reporting, and active monitoring of customer equipment.

Security and Control: Prevent unwanted guests and unauthorized users with built-in security measures such as: owner and access PINs, authentication, locked meetings, and HTTPS encryption. These end-to-end security features allow cloud service providers to offer a secure service that addresses risks associated with the mobile workforce and BYOD.

Out of the Box Multi-Tenancy: Allowing service providers to leverage the built-in platform capabilities for quick ramp-up and launch of new video services to the market.

What's in the Virtual Box?

Avaya Cloud Enablement for Video is offered as a "do it your way" (SDK/API) or a multi-tenant "out-of-the-box" solution.

1. The SDK/API edition allows cloud service providers to purchase infrastructure from Avaya, while utilizing their existing back-end systems and portals to manage and provision the Avaya system in a multi-tenant fashion, add capabilities, and customize their package.

2. The multi-tenant option is ideal for those who need to quickly deploy a comprehensive out of the box solution that leverages Avaya's infrastructure and provides for complete user management, multi-tenancy, and administration.

Both options can play a role in building rewarding partnerships between cloud service providers and enterprises. Avaya Professional Services supports Avaya Cloud Enablement for Video with software and hardware support, upgrades, and maintenance plans.

Why Avaya Cloud Enablement for Video?

Offer exciting video collaboration tools as a paid service to earn customer loyalty and generate revenue.

- Fast ROI and proven profitability
- Upselling opportunities
- Flexible "out of the box" multi-tenant and SDK/API options
- BYOD-friendly
- Competitive differentiation

Rise Above the Competition

Business Benefits & Value

Avaya Cloud Enablement for Video allows you to differentiate your organization and offer a hosted, cloud-based video conferencing solution. Once customers have deployed endpoints and experienced your infrastructure, they usually won't switch. By offering video as a paid service, you increase customer loyalty, build long term relationships, and generate a consistent income. Cloud service providers also have the opportunity to access accounts which use end-points that are non-Scopia, therefore gaining new customers that they would have otherwise been unable to service.

With its proven profitability and shared resources, Avaya Cloud Enablement for Video quickly generates a return on investment. Opportunities to upsell equipment, connectivity, and services are plentiful. For example, you can fulfill all of a customer's video requirements with endpoints, equipment sales and leases, virtual rooms, recordings, managed services, MPLS leased lines, remote management, and VNOC tenant management.

What Your Customers Want

In general, enterprise customers want to:

- Increase productivity
- Control costs
- Make decisions faster
- Improve customer intimacy
- Speed products to market
- Create cohesive team environments
- Shorten the problem resolution cycle
- Leverage, manage, and control BYOD
- Use existing systems

Your ability to address customer business needs is crucial. Avaya Cloud Enablement for Video aligns to all benefits listed above, allowing you to solve problems and make a positive impact.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
03/13 • UC7236

AVAYA
The Power of We™

Avaya Cloud Enablement Solutions for the Enterprise

With today's economic pressures and shrinking budgets, organizations are challenged to do more with less. To remain competitive, enterprises must optimize their communications systems while protecting their investments and keep systems running. They must also keep these systems running in the face of an ever growing number of applications and devices that are rapidly becoming indispensible to the workforce.

Managing powerful, complex networks and applications can affect both direct and indirect costs and drive up total cost of ownership, making it even more difficult for organizations to focus on their core mission. Thus, enterprises have started evolving their communication and collaboration solutions to managed, hosted and cloud communication applications and services.

To meet these challenges, **Avaya Cloud Enablement Solutions** provide a complete suite of collaboration solutions to help enterprises gain the benefits of cloud communications — shifting capital expense (CapEx) to operating expense (OpEx), simplifying ongoing management, and accelerating application deployment.

How Your Company Can Deploy Avaya Cloud Enablement Solutions

To obtain **Avaya Cloud Enablement Solutions**, your business will need to work with a Cloud Service Provider (CSP) who hosts and delivers cloud-based collaboration services built on Avaya solutions. The Cloud Enablement portfolio includes: **Avaya Cloud Enablement for Unified Communications** and **Avaya Cloud Enablement for Customer Experience**. Both are available to your company through your selected Cloud Service Provider.

Avaya Cloud Enablement for Unified Communications

- **Voice and Video**: Comprehensive SIP-based secure end user voice and video features facilitate effective communications among employees, customers and partners.
- **Presence**: Provide rich presence and instant messaging capabilities across a wide range of business environments. Aggregate and publish presence from and to multiple sources and clients including third party applications.

Avaya Collaborative Cloud™ Portfolio

Avaya Cloud Enablement Solutions are part of the Avaya Collaborative Cloud portfolio, our strategic framework for enabling enterprises and cloud service providers to evolve, augment, federate and simplify their cloud communication and collaboration applications for Unified Communications, Video Collaboration and Contact Centers.

These solutions help to:

- **Evolve toward cloud communications and collaboration** – with paths and choices across public, private, and hybrid cloud options rooted in flexible licensing and pricing options to accommodate variable business priorities.
- **Augment existing on-premises and cloud applications** – with complementary Avaya cloud applications, delivering enhanced innovative solutions.
- **Federate cloud communications across enterprise domains** – to enable enterprises to interoperate across platforms and protocols, to cloud applications, and across clouds.
- **Simplify user experiences and environments** – with rich clients, unified platforms and easy-to-use administration.

Avaya Cloud Enablement Solutions provide a complete suite of collaboration solutions to help enterprises gain the benefits of cloud communications.

- **Messaging**: Control your messaging environment. Manage texts, emails, voicemails and instant messages in one user-friendly format.
- **Conferencing**: Collaborate using the Avaya conferencing suite.
- **Full Range of Devices**: Take advantage of a wide array of end user devices any place, any time. Existing Avaya desk phones, conference phones and a full range of soft clients are supported. Attendant console allows users to easily manage calls and work groups.
- **Mobility**: Extension to cellular capabilities provide ease of use and reachability across Bring Your Own Device (BYOD), helping to maximize productivity and time to action.

With **Avaya Cloud Enablement for Unified Communications**, organizations get a full range of cloud-based advanced communications and collaboration capabilities — voice, video, mobility, messaging.

Avaya Cloud Enablement for Customer Experience Management

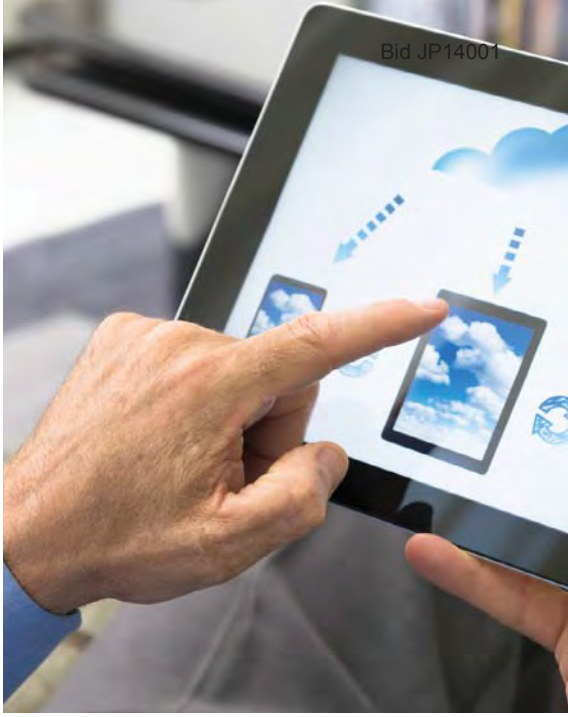
- **Multichannel customer interaction**: Let customers contact you through their channel of choice.
- **Right resource at the right time**: By capturing resource skill sets in the routing database, contacts are routed to the right resource by skill type, regardless of contact channel.
- **Automated interactions across media**: Lower service costs by automating self service interactions across multiple media including voice, mobile, and integrated voice response to outbound voice, email and SMS text interactions.
- **Contact Recording**: Capture customer interactions across a wide range of channels. Reliably and securely record all voice transactions across multiple sites, or randomly capture a subset of transactions that may be of particular interest to you.
- **Reporting**: Monitor and analyze virtually everything in your contact center – from wait times to average answer speeds, to percent reduction over the past year in abandoned call times. Get real-time monitoring to make “on the fly” decisions and leverage historical data to develop new and improved procedures.
- **Simple, intuitive agent desktop**: Get a rich contact center agent desktop with advanced contact handling features, on demand access to customer information, and immediate access to experts. Give your agents — whether at your headquarters, local branch or home office — the tools to deliver superior customer service.

With **Avaya Cloud Enablement for Customer Experience Management**, your business can access key capabilities including voice, multichannel, self-service, reporting, workforce optimization, and agent desktop

Enterprise customers looking for more information on Cloud Service Providers offering Avaya Cloud Enablement Solutions should contact their Avaya Account Manager.

The Avaya Difference: Benefits of Avaya Cloud Enablement Solutions for the enterprise customer

- **Market leading Unified Communications (UC) and Contact Center (CC) applications**: Get the same trusted feature-rich Avaya solutions — delivered flexibly and cost effectively from the cloud. And with the Avaya Aura® platform, the next generation people-centric collaboration solution, you can create an evolutionary path for your existing communications.
- **Flexible options**: Deploy cloud communications for some or all users within your enterprise. Overlay discrete services to enhance on-premises applications or get the benefits of holistic communications solutions.
- **Financial flexibility**: Optimize cash management by shifting CapEx to OpEx. With utility pricing, gain predictable monthly costs based on usage, not idle capacity. Use the cloud for alternatives to traditional leased or capital purchased customer premises equipment.
- **Business agility**: Quickly scale based on fluctuations in demand, seasonality or other business needs. Remove the need to provision for expected peak volumes — instead, expand when needed while paying only for what is used.
- **Rich user experience**: Deliver seamless user experiences across on-premises, cloud and mobile devices supporting enterprise BYOD.
- **Investment protection**: Rationalize and streamline investments by preserving, adapting and streamlining your move to the cloud. Leverage your existing investment and training, while retaining the user experience that's familiar to your employees. Ease migration to the cloud for some of all of your departments.
- **Open standards**: Comprehensive suite of UC and CC applications with rich APIs enables custom application development and integration — delivering differentiated services for your users.



- **Simpler, easier to manage environment**: Get automatic system upgrades without the overhead. Easily and quickly add new applications and services. Eliminate technology obsolescence concerns within your organization.
- **Enterprise system management and control**: Retain control over administration management via Avaya Control Manager.

Differentiated Cloud Communications for Enterprises — A Quality Portfolio of Cloud Solutions from Cloud Service Providers

Enterprises who want to differentiate their business need the solution that matches their needs. Avaya Cloud Enablement Solutions are built on the same market leading Avaya Aura® platform that delivers the rich features and applications reliably, at scale, and based upon open standards.

With Avaya, enterprises can get the choice and flexibility provided by Avaya Solutions — across a full range of deployment options whether on their premises, or across private, public and hybrid clouds. Together, Avaya and Avaya Partners provide a comprehensive portfolio of communication and collaboration services to transform the way people work together.

Learn More

For more information on Avaya Cloud Enablement Solutions, please contact your Avaya Account Manager or your Avaya Authorized Partner. You can also visit us at **www.avaya.com/cloud**

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
05/13 • UC7267-01

AVAYA
The Power of We™

Avaya Contact Center Control Manager

In today's environment, market circumstances and customer needs are constantly evolving. Consumers are demanding more efficiency and immediate responses in every interaction with product and service vendors. With an ever growing selection of goods and services, consumers expect service providers to be more aware, attentive and responsive to their needs. If these needs are not met, they will simply move on to the next provider.

Avaya Contact Center Control Manager – Making the Best Better

To address these mounting challenges, many companies have invested in the very best – robust Avaya Contact Center solutions that are designed to consolidate organizations' customer-facing activities across all channels and deliver superior customer service. Now it's time to make the most of this investment with simpler, easier, centralized administration and management.

Avaya Contact Center Control Manager delivers seamless integration and centralized administration for the Avaya Contact Center portfolio. It provides powerful ability to allow both technical and non-technical administrators to manage the key day-to-day tasks such as handling agents, users, extensions, voicemails, hunts, and skills from an easy-to-use web-based interface. Contact Center Control Manager complements Avaya Aura® Communication Manager with a range of functionality and operationally-oriented administration tiers. This can effectively streamline management of all Avaya contact center operations, enabling organizations to respond to even the most demanding customer needs in real-time.

A Uniquely Powerful Management Foundation

Contact Center Control Manager complements the entire Avaya Contact Center portfolio by effectively combining and integrating management and administration of a wide range of contact center entities. Rather than focusing on technology components and IP telephony entities, Contact Center Control Manager spotlights vital yet intuitive functional hierarchy and call center business logic. This powerful management application includes –

Avaya Contact Center solutions are designed to consolidate organizations' customer-facing activities across all channels and deliver superior customer service.

- **Centralized management and administration across Avaya Contact Center products:** For Communication Manager, CTI system, Integrated Voice Response (IVR) and call recording system setup and maintenance, perform a one-time definition of all relevant contact center data and entities then have Contact Center Control Manager apply across Avaya Contact Center product offerings.
- **Simpler way to administer contact center parameter changes:** Vector directory numbers, policy routing tables, vectors, skills, service hours tables, vector routing tables, holiday tables, agents, extensions, call flows, IVR working hours, dynamic prompts and menu content changes can all be easily set up and managed through a unified and intuitive browser-based interface.
- **Easy to use tools and intuitive user interfaces:** Allow control and administration to return to non-technical personnel within the contact center or line of business teams who use and rely on the solution on a daily basis.
- **Deploy the following tools:**
  - Sphere – a web-based, highly personalized thin client application interface
  - Control Sphere – a tool to search the entire environment and track changes
  - Conversation Sphere – a web-based designer studio to design processes within Contact Center Control Manager. Utilize a single flow to create the entire routing cycle between Avaya Aura® Experience Portal/Voice Portal applications, Proactive Outreach Manager applications, and Avaya Aura Communication Manager vectors.
- **A simpler way to manage your Avaya environment:**
  - Support multiple Avaya Aura Communication Managers on a single deployment of Contact Center Control Manager. Get multi-range dial plan support per location and trace capabilities.
  - Transition seamlessly when running a mixed environment of Avaya Aura Call Center Elite and Avaya Aura Contact Center.
  - Support multiple versions of Avaya Contact Center products with one administration tool.
- **Roles-based permissions:** A broad array of centralized security features, including the ability to apply roles-based permissions for every object administered. Manage roles-based access using Visual Organization Chart.
- **Tenant partitioning:** The multi-tenancy function allows every object that is administered to be assigned to a tenant and provisioned to the relevant Avaya system based on its administered location. System transparency is maintained as well as uncompromising tenant privacy and security.

- **Integration with Active Directory:** Complete Active Directory integration with single sign-on functionality.
- **Scalability:** Accommodate small, medium and large organizations – all within the same tool.
- **Support for virtualization:** Running Contact Center Control Manager on virtual machines means less hardware and it can lower costs.
- **Audit log portal:** Track any change/add/remove and administration management modifications to any object that can be managed from the Contact Center Control Manager platform.
- **Localization:** Contact Center Control Manager is localized in 14 languages.
- **High availability and reporting:** Multiple high availability options, and enhanced trunk and traffic reporting.

Avaya Contact Center Control Manager – Control Sphere World

Seamlessly Integrate Across the Avaya Contact Center portfolio

Avaya Contact Center Control Manager seamlessly integrates with and supports operational administration of the Avaya Contact Center suite, including the following applications:

- Avaya Aura® Communication Manager – centralized administration and single point of management for all contact center components and related entities, including Avaya Aura Call Center Elite, Avaya Unified Messaging (Modular Messaging and AUDIX®), Avaya Aura System Manager, and Avaya Aura Session Manager.
- Avaya Aura Call Center Elite Multichannel
- Avaya Interaction Center
- Avaya Aura Contact Center
- Avaya Aura Experience Portal - Web-based voice application design and management; control of all IVR system aspects without a single line of code
- Proactive Outreach Manager
- Proactive Contact
- Call Management System – full integration with CMS dictionary
- Avaya IQ
- Avaya Aura Workforce Optimization – covering the full suite, including Recording, Quality Monitoring, and Workforce Management applications
- Avaya one-X® Agent
- Third-party adjunct Contact Center applications

Benefits for Your Contact Center

By deploying Avaya Contact Center Control Manager you can:

- Reduce costs by administering all Avaya Contact Center products from within one intuitive tool that includes Roles Based Access Controls and templates

- Enable non-technical personnel to administer your contact center applications to create higher efficiencies
- Enhance security with multi-level access privileges
- Implement full tenant partitioning and still maintain system transparency, customer privacy and security

Learn More

For more information on how you can deploy Avaya Contact Center Control Manager, please contact your Avaya Account Manager or Avaya Authorized Partner. Or visit us on **avaya.com**

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
05/13 • GCC5270-01

AVAYA
The Power of We™

Integrating Avaya telephony and video systems with Microsoft applications

Avaya Desktop Communications Enablement

One of the many Avaya Client applications available adds click-to-call and click-to-join/host conference calls to Microsoft desktop software. Organizations looking for an entry-level unified communications (UC) solution can benefit from this application. Avaya Desktop Communications Enablement (DCE) is a client-side software plug-in for Microsoft Office suite including Outlook and Internet Explorer. A Desktop Notification service provides inbound call handling options. Avaya DCE can be optionally combined with Avaya Microsoft Lync Integration and Avaya Microsoft Dynamics and Salesforce CRM Application Integration.

Customer Benefits

Improve productivity

Empower users to connect and communicate quickly with people directly from Microsoft desktop applications using their phone or UC client of choice. Avoid delays associated with looking up and dialing people's phone numbers, conference bridge numbers and passcodes.

Improve customer service

Find and communicate with subject matter experts immediately and relay information quickly to customers to drive higher satisfaction and more repeat business.

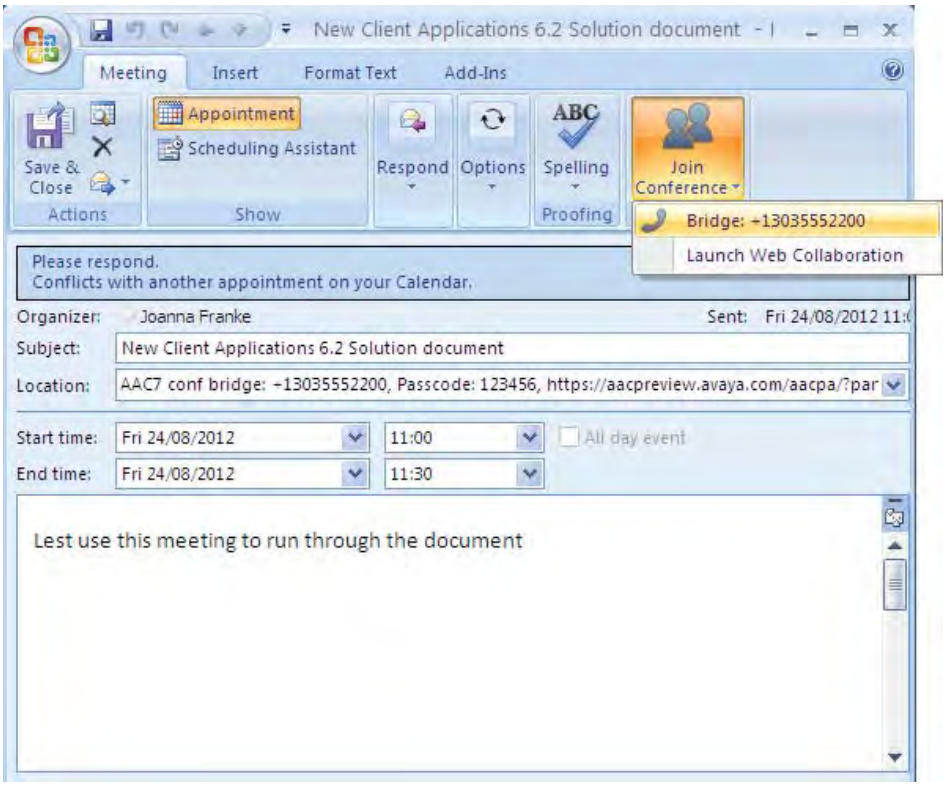
Easily create a presence-enabled personal contacts list for seamless call transfers.

Reduce Costs

Preserve investments in Avaya telephony and video systems, including desk phones, software features and trunks.

Accelerate adoption of unified communications

Begin the roll-out of unified communications within your organization by enabling employees to click-to-call others from Web pages and Microsoft Office applications using their preferred communication devices.



Communications Enabled Applications

Click-to-Call with Avaya Web Browser Add-In

Avaya Web Browser Add-In allows users simply to mouse over telephone numbers or extensions contained within external and internal Web pages to call people with a single click. The application then initiates a phone call from the user's preferred phone or UC client such as Avaya Flare® Experience for Windows or Avaya Microsoft Lync Integration client.

Web Browser Add-In also supports click-to-call from Web page pop-up boxes. This application is currently supported on Internet Explorer versions 7.0 to 9.0.

Click-to-Call with Avaya Office Add-In

Avaya Office Add-In adds click-to-call functionality to the Microsoft Office application suite. Users can simply mouse over a contact's name within Microsoft Office Outlook — from e-mail, calendar, contact, task, or journal items — and click to make a call using the employee's desk phone or UC client. Office Add-In also supports smart tags so that users can click-to-call from phone numbers within Microsoft Office 2007 and 2010 applications: Word, Excel, PowerPoint and in the body of Outlook e-mails. Office Add-In helps eliminate dialing errors and time spent looking up phone numbers.

Click-to-Join/Host Conference Bridge Calls from Outlook provides users with an easy way to participate in or chair conference calls by clicking to join/host directly from a Calendar invite or meeting reminder and the ability to click to launch a Web collaboration session if available. This functionality is designed to work with virtually any Avaya or third party conference bridge product or service.

Desktop Notification Service

With the Avaya Desktop Notification Service, Avaya provides users with the ability to receive incoming and outgoing call notifications on their PC desktop. Any incoming or outgoing calls the user makes or receives from any of his or her associated devices are presented as a 'toast' notification on the user's PC desktop. Through the Desktop Notification Service the user is able to: view the caller ID, answer an incoming call, release a call before or after answering the call, initiate a call, put a call on hold, retrieve a held call, transfer a call to another contact or telephone number, view the call history and the list of missed calls. The DCE Notification Service also includes a user configurable contact list which can be used to create a list of frequently used contacts to enable quick dialing or call transfer. The contact list can also be supplemented with user presence where available.

Customers can opt to deploy the DCE Notification Service functions with Avaya Microsoft Lync Integration or use in conjunction with an Avaya desk phone or UC client such as Avaya one-X® Communicator or Avaya Flare Experience for Windows. The DCE Notification Service can be deployed in conjunction with the Web Browser Add-in and Office Add-in applications

to provide a complete desktop communications experience.

Optional CRM Integration adds additional capabilities to the DCE Notification Service to display caller name and company information retrieved from the Microsoft Dynamics or Salesforce CRM database for incoming and outgoing calls, as well as generate corresponding customer activity records in the CRM database that automatically populate caller and call duration information.

No UC client required

Avaya ACE™ Office and Web Browser Add-ins do not require a UC client such as the Microsoft® Lync client in order to communication-enable Web pages and Office applications.

Automatic telephone number formatting

Avaya uses a unique number recognition algorithm that identifies telephone numbers on web pages and applies correct national, international, and enterprise dialing rules to ensure numbers are called correctly.

Rapid and flexible implementation

Avaya Office and Web Browser Add-ins are compatible with Windows XP SP2, Vista, and 7 operating systems. Desktop Communications Enablement can be implemented easily using a configuration tool that creates an end user install package. Avaya DCE can also be deployed within a Citrix environment. This option allows for one-time installation on a Citrix server.

Other Benefits

Multi-vendor communications integration

Avaya Web Browser and Office Add-Ins are designed to be compatible with single and mixed vendor voice and video environments. Systems that support CTI for click to dial control of a device include:

- Avaya Aura® Communication Manager 5.2.1+
- Avaya Communication Server 1000 7.0 +.

Capacity

Up to normal capacities of Avaya Aura Communication Manager when Avaya DCE is deployed for use with Avaya Microsoft Lync Integration or Avaya Flare Communicator for Windows only (i.e. no need for Avaya ACE). For click-to-call control of Avaya one-X® Communicator and/or desk phones, or when deployed alongside Avaya CRM Integration, an Avaya ACE server is required which provides capacity of up to 10,000 users per server.

For Avaya CS 1000, Avaya DCE requires installation of Avaya ACE and capacity is up to 10,000 users per server.

Platform for Further Communications-Enabled Business Applications

Avaya Desktop Communications Enablement is an Avaya Client Application, part of a portfolio of client-side integrations to various desktop applications and clients. Although the Avaya DCE application is client-side only and does not

require Avaya ACE™ when used in conjunction with Avaya Aura® Communication Manager for click-to-call control of Avaya Flare® Experience for Windows or Avaya Microsoft Lync Integration; when Avaya DCE is deployed for use with devices such as Avaya one-X® Communicator and/or desk phones, or when integrated to Avaya CS 1000 systems, then Avaya DCE also requires the provision of Avaya ACE.

Avaya ACE™ is Avaya's software platform for communications-enabled applications (CEA) and business processes (CEBP). Its key differentiator is rapid and simple integration of Avaya Aura® and multi-vendor communication systems with business applications and workflows. Avaya ACE is available as a set of packaged applications that can be implemented off-the-shelf with high return on investment, or as toolkits for IT developers who may not have telecom expertise. Avaya ACE toolkits consist of both high-level Web services for simple application integration and low-level foundation services for fine-tuned control of call flows across an Avaya Aura Session Manager network.

Learn More

For more information on how Avaya Agile Communication Environment™ can help your organization gain competitive advantage by integrating business processes with existing communications systems, contact your Avaya Account Manager or Avaya Authorized Partner and visit **www.avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

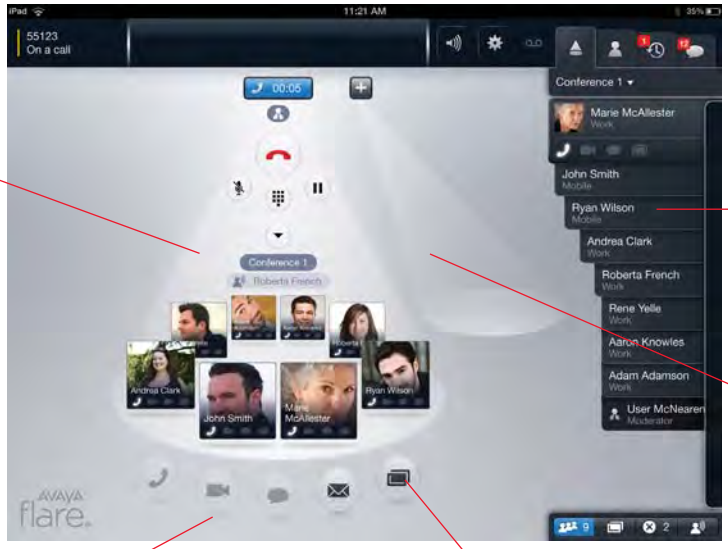
© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
12/11 •UC5089-04

AVAYA
The Power of We™

Avaya Flare® Experience for Windows and iPad Devices

Turn an iPad or Windows-based device into a one-stop real-time collaboration center.

Video and audio sessions have individual spotlights. Drag and drop contact cards into spotlights to establish communications.



Flip through the fans to find conference participant roster, enterprise and personal contacts, call history and IM. View presence for contacts on multiple channels (audio, video, IM).

You can have multiple communication sessions by switching to another spotlight.

Switch back and forth between voice calls, IM and e-mail.

Escalate to content sharing with one click of the collaboration button.

One-stop Communications and Collaboration

Avaya Flare® Experience—the innovative "spotlight" interface that streamlines collaboration—works on iPad and Windows-based devices, delivering easy, one-click access to communication and collaboration that improves productivity and drives faster decision making.

Employees can use iPad and Windows PCs to log securely into your company's Avaya Aura® Session Manager server and get access to:

- Integrated Web collaboration and video viewing
- Desktop and mobile professionals can dial into Radvision Scopia® Elite virtual meeting rooms via Flare Experience
- VoIP
- Point-to-point and multi-point audio and video conferencing
- Instant Messaging and Presence
- Web collaboration, document library and whiteboarding

Take full advantage of your Avaya Aura® communications capabilities, including Avaya Aura® Conferencing.

- Initiate ad hoc or meet-me conference calls and share content with participants.
- Implement a consistent interface that simplifies Bring Your Own Device (BYOD) strategies.

Requirements/Configuration Options

- **Infrastructure:** Flare with Conferencing 7 requires Aura R6.2+. Flare without Conferencing 7 provides p2p audio, IM/presence; requiring Avaya Aura R6.1+ (p2p video requires upgrade to Avaya Aura 6.2+).
- **Windows SW:** Microsoft Windows 7 (Enterprise, Ultimate or Professional), 32 bit Windows XP (Home or Professional) with SP3+, Microsoft .NET Framework 4, Java 6 update 18 or higher
- **Windows HW:** Dual-core processor or better, 2 GB or more of RAM, 1.5 GB free hard disk space, 32 or 64 bit
- **iPad Devices:** iPad 2; new iPad with 3G or WiFi; iOS 5.0 or higher
- **Enterprise Directories:** Active Directory, Novell, Domino
- **Personal Contact Integration:** Microsoft Outlook 2007/2010 contacts, iPad local address book
- **Audio Codecs:** G.729, G.711, G.722 (HD Audio), iSAC, WB/SWB, iLBC
- **Video Codecs:** H.263 in SQCIF, QCIF, CIF and resolutions, H.264 (AVC), H.264-SVC

At-a-Glance: Avaya Flare® Experience for Windows and iPad Devices

Unified Communications and Collaboration

- Simple and intuitive user interface
- A superior HD audio and video experience*
- Support for midcall features (DTMF, hold, mute, etc.)
- Personal contact integration / Enterprise LDAP Directory
- Avaya Aura Instant Messaging / Presence federation with OCS / Federation with Lync*
- Avaya Session Border Controller support (VPN–less access)*
- VPN access via iPad and Windows PC
- Click to dial from office apps via Avaya Agile Communications Environment (ACE)

Conferencing

- Ad-hoc, Meet-me and Large Event Conferencing
- Intuitive conference controls such as continuation, silence, mute, lock, lecture mode, raising your hand, add participant, promoting participants
- See who dropped from the conference, who is actively speaking

Web Collaboration

- Upload and share documents from your library
- Share desktop, documents, applications, and white-boarding
- Enter minutes, notes, questions, and messages during a collaboration session (Windows only in current release)

*video on iPad available on the app store now for trials
Coming soon: SBC support and Federation with Microsoft Lync

Learn more

To learn more about Avaya Flare® Experience, talk to your Avaya Account Manager or Authorized Business Partner or visit us at **www.avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc. or Radvision, an Avaya Company.
11/12 • UC7119-01

AVAYA

The Power of We™

Simple. Seamless. Convenient. An entirely new way to communicate and collaborate.

That's the Avaya Flare Experience.

The Avaya Flare® Experience

Imagine the possibilities. Your favorite communications tools—video, e-mail, IM, social networks, phone—at your fingertips. Now put all these tools into a single, unified enterprise workspace and you have the Avaya Flare Experience. Designed to change the way you communicate and collaborate, the Avaya Flare Experience delivers a seamless communications experience that is easy to use, convenient, and ready in real time to help you focus on the task at hand. The Avaya Flare Experience streamlines your applications into unique personal workflows, avoiding the frustration of barriers between technologies. When the Avaya Flare Experience helps manage your communications—you can spend more time managing your business.

The Avaya Flare Experience is unlike anything you've seen. It spotlights tasks that need immediate attention. It lets you match your mode of communication to the task at hand, switching back and forth between IM, voice, video, email, and social media sessions. You can drag and drop contacts and content into collaboration sessions with a swipe of its touch-screen.

Delivering context-sensitive mash-ups of chat, email, social network and video communications, the Avaya Flare Experience is a breakthrough in enterprise collaboration. When time is of the essence, it allows you to manage multiple collaboration sessions at once; the Avaya Flare Experience speeds critical decision making and helps you get business done. A people-centric approach to real-time interactions, it displays recent communications and presence information—when you click a contact and then pull in relevant documents, it helps you avoid endless searching to find what you need.

Designed for video communications & collaboration

To collaborate effectively, you need all your communications working together. That's exactly what the Avaya Flare® Experience is designed to do:

- You need to set up a conference call. See who is available with presence and IM. To initiate audio or video sessions, just drag and drop contacts into the spotlight. The Avaya Flare Experience sets up your calls. No manual dialing required.
- You want to show off your mock-up of a new product to a potential partner. Simply click on the Web collaboration icon to whiteboard, share your desktop or content from the document library.
- You have address books all over—Facebook, PC, smartphone—the Avaya Flare Experience mashes them together, saving time and frustration.
- You want to review all e-mails and IMs from a certain customer—the Avaya Flare Experience displays their communications history for you.

Consolidate Desktop Devices

Speed the decision-making process for knowledge workers who spend considerable time in voice and video conferences while sharing and reviewing documents and screens. The Avaya Flare Experience combines all the tools power collaborators need to increase productivity, lower costs, and tread more gently on the environment.

Support Mobility and BYOD

Key stakeholders are scattered across multiple locations and working on the go. Employees, customers, and suppliers are using their personal devices to communicate and collaborate.

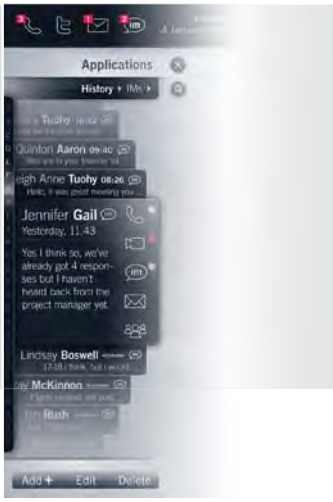
Your business needs enterprise-grade collaboration solutions that make it fast and easy to bring people together and keep business moving. Avaya Flare Experience is available on Windows-based computers and iPad devices, making it fast and easy to bring people together and securely share information.

You get the idea. The Avaya Flare Experience is like an executive assistant focused solely on you and your communication and collaboration needs. It understands how you work, the tools you use, what you need to accomplish. With its contextual, people-centric design, the Avaya Flare Experience makes business easier and more convenient than ever before.

The Avaya Flare® Experience in Action

1 **Convene a team quickly**
Scroll through your contacts and drag them into the spotlight

2 **Leverage communications history**
Quickly locate all e-mail, IM and voice messages from your team



3 **Access experts instantly**
Locate experts using IM and presence. With one click, bring them into the conversation

4 **Integrated Video, Audio and Web Collaboration**
Quickly connect with person-to-person or multi-party video and content share

The Avaya Flare® Experience at a glance

The Avaya Flare Experience is available on Windows-based computers and iPad devices, making it fast and easy to bring people together while on the go. It is also offered on the Avaya Desktop Video Device as a cost effective video desktop collaboration end point.

Unified Communications and Collaboration

- Simple and intuitive interface with one click access to integrated audio, video and Web collaboration
- Access contacts, enterprise directories, and preferences via the contact fan
- Support for mid-call features (hold, mute, etc.)

Audio and Video Conferencing

- Ad-hoc, instant and scheduled audio video conferencing
- Rich conference controls enable you to simply click an icon to expand audio to video or to start Web collaboration
- View a roster of participants and active speakers

Web Collaboration

- Upload and share documents from your library
- Share desktop, applications or whiteboard
- Take notes and minutes

Learn More

To learn more about the Avaya Flare Experience, contact your Avaya Account Manager or Authorized Partner. Or, visit us online at **avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
11/12 • UC4571-02

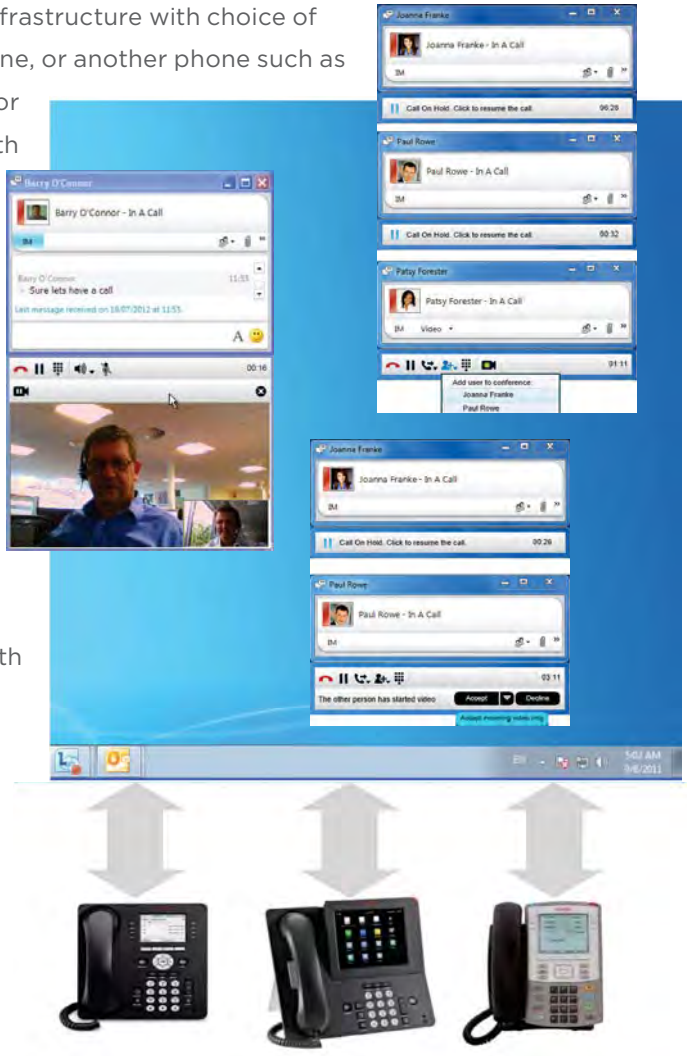
AVAYA
The Power of We™

Avaya Microsoft Lync Integration

Access Avaya real-time collaboration from Microsoft Lync clients and desktop applications

Provide users with a unified desktop experience by extending Avaya real-time collaboration to Microsoft Lync, Office 365 and other Microsoft applications. Tight integration keeps the client interface consistent and allows users to communicate from their preferred devices. Your enterprise can improve productivity while reducing costs, as Avaya client-side integration preserves existing communications investments and requires no Microsoft voice licenses or devices.

Avaya Microsoft Lync Integration allows users to access Avaya voice and video from within the Microsoft Lync/Communicator client, Microsoft Office, and Internet Explorer. The Lync/Communicator client can be used to drive calls through the Avaya Aura® infrastructure with choice of desk phone, PC "VoIP" phone, or another phone such as a mobile or home phone. For off-the-shelf integration with Microsoft Dynamics and Salesforce.com, users can add the Avaya CRM Integration. Like other Avaya client applications, these are quick to deploy and can generate high financial returns for enterprises seeking to integrate Avaya and select third party communication systems with business applications.



Avaya Microsoft Lync Integration

Key Customer Benefits

Reduces Costs, Preserves Dial Plan

Maintain your existing dial plan configuration and protect investments in Avaya infrastructure and desktop phones with Avaya Microsoft Lync Integration. Avoid investments in duplicate back end infrastructures and leverage Avaya Aura® to standardize on one voice, video, and unified messaging network with single dial plan, trunk consolidation, and centralized management and applications. Eliminate costs associated with Microsoft voice licenses and related devices, as Avaya integration requires only Microsoft Lync/OCS Standard client access licensing. Deploy the application to users quickly and cost effectively.

Improves Productivity

End users access a combination of Microsoft presence, instant messaging and Avaya real-time collaboration in an intuitive, unified experience. The Lync client experience remains consistent and users continue to communicate from their preferred devices. Multi-modal communication from the desktop helps end users connect, communicate and collaborate to deliver projects without delay.

Key Features*

Telephony and Video presence integrated with Microsoft Lync or Communicator clients can increase productivity by giving users improved visibility into a person's availability (e.g. not on a voice or video call) and how he or she can be contacted.

Click-to-call from Microsoft Lync or Communicator, Microsoft Office, or Internet Explorer lets users control their Avaya desk phones, other phones such as mobile or home phones, or make PC "VoIP" calls from these desktop applications. Microsoft Lync-controlled access settings enable users to configure which phone numbers colleagues, customers, and partners see. Enhanced resiliency helps ensure that established voice and video calls continue even in the event of a Microsoft Lync reboot.

Video Calls enable users to establish video calls with other Avaya Aura System video-enabled endpoints and interoperate with standards-based, video conferencing systems such as Avaya Aura Conferencing 7.0 and the Radvision Scopia solution. Users have options to automatically answer calls with video and to turn video on/off during a call.

Premise-based or Office 365 Microsoft Lync support means organizations may deploy Lync 2010 Client/Communicator clients as part of a Microsoft on-premises system or as a hosted Office 365 service.

Escalate from IM to a voice or video call capability lets users transition automatically to an Avaya controlled voice and video call from a Microsoft Lync instant message.

Conversation window for mid-call control provides easy access to Avaya telephony features from the Microsoft Lync or Communicator user interface, including call forwarding, hold and retrieve, transfer, conference and a keypad for entering DTMF tones, such as when using passcodes to enter a conference call. Volume and mute controls are also presented for calls made in computer mode. Likewise, calls originating from a desk phone can be controlled via the Conversation Window.

Extend click-to-call to other Microsoft applications, including Microsoft Outlook, Excel, Word, PowerPoint, or Internet Explorer. A conversation window gives users access to Avaya mid-call control features from their preferred devices.

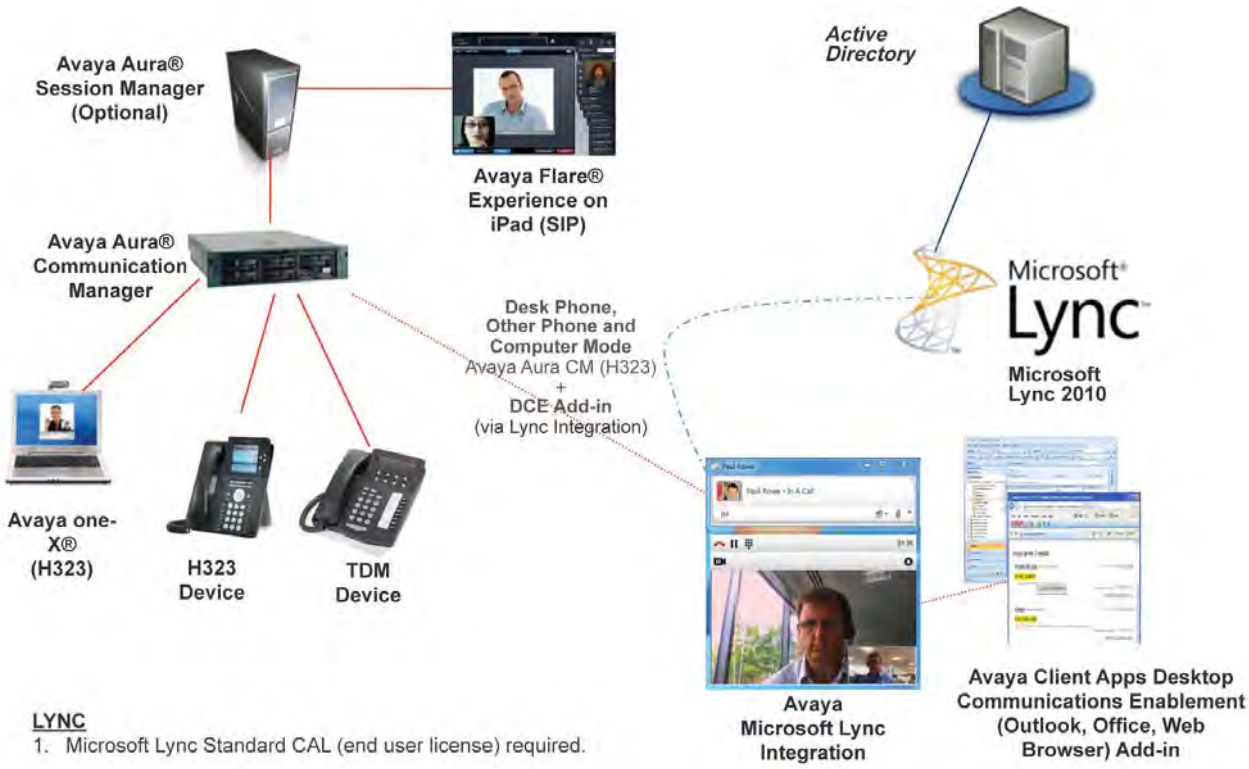
Click-to-Join/Host Conference Bridge Calls from Outlook provides users with an easy way to participate or chair conference calls by clicking to join/host directly from a calendar invite or meeting reminder and ability to click to launch a Web collaboration session if available. This functionality is designed to work with virtually any Avaya or 3rd party conference bridge product or service.

Toast pop-up enables easy call answering or incoming call diversion to an alternate device.

Multiple call handling enables users to maintain one active call while having one or more calls on hold. Users can swap between active and held calls, transfer active calls to an on-hold user, join active and held calls to form a conference and add further held calls into the conference call. A toast pop-up shows any calls waiting (alternative call) and allows a user to answer the alternative call and place the active call on hold.

* Some features are dependant on Avaya system type (Avaya Aura Communication Manager, Avaya CS 1000, or IP Office) and software release.

9/11/2013 12:07 PM BidSync Page 1376 of 1712 p. 1419



Avaya Microsoft Lync integration with Avaya Aura® System 6.2

Choice of Device lets users remotely control their familiar Avaya connected desk phones, use the PC as a "VoIP" phone, or select another phone such as a mobile or home phone for calls. For computer calls, Avaya provides a desktop media engine that delivers calls through Avaya Aura® using open codecs: G.711, G.722, and G.729. When on the move, users are prompted to change modes. For example, switching from a remote network (such as a home office) to a corporate location prompts a change to desk phone mode, so the user no longer risks missing the first call.

Enterprise dial plan and E.164 support enables employees to use familiar internal extension number dialing as well as national and international number dialing.

Synchronized call forwarding across the desk phone and Microsoft Lync/ Communicator client helps give the user complete control of call forwarding settings and avoid unintentional overrides. For example, if a user has cancelled call forwarding on his or her desk phone, the application prevents previous settings on Microsoft Lync from inadvertently re-establishing call forwarding during sign-in.

Single sign-in means users only need to use Microsoft Lync/Communicator sign-in methods to make calls using Avaya Aura®.

Silent install lets IT install the Avaya ACE™-Microsoft Lync client and Avaya UC desktop engine for computer mode calls in a single step without end user intervention.

Avaya IP Office 8.1 FP1 provides voice integration (no video integration). An Avaya Client Applications client-side s/w plug-in is required (no Avaya ACE required).

Localization support for simplified Chinese, Japanese, Korean, English, French, German, Italian, Russian, Lat-Spanish, and Brazilian-Portuguese is also available.

Requirements

Avaya Microsoft Lync Integration requires:

- Avaya Aura Communication Manager 5.2+ (for voice integration), 6.2 SP2 (for voice and video integration)
- Avaya Client Applications client-side s/w plug-in only (i.e. no Avaya ACE or AES servers required)

Or

- Avaya Communication Server 1000 7.5 for voice integration (Video integration requires addition of a Collaboration Pack expected to be available in H1 2013 with ACA 6.2 Service Pack update)
- Avaya Client Applications client-side s/w plug-in and Avaya ACE required (unless deploying Collaboration Pack)

Microsoft Lync

- Microsoft Lync Server 2010 and Microsoft Lync Server 2010 Client

- Client PC on Microsoft Windows XP SP2 or later or Windows 7
- Microsoft .Net 4.0 or later

Microsoft OCS 2007 R2

- Microsoft OCS 2007 R2 and Microsoft Communicator Client R3.5.6907.196 or above
- Client PC on Microsoft Windows XP SP3 or later or Windows 7 SP1
- Microsoft .Net 4.0 or later

Microsoft Desktop

- Microsoft Internet Explorer 7.0 to 9.0
- Microsoft Office 2007 / 2010

Capacity

- Up to existing capacity limits on Avaya Aura® Communication Manager
- Up to 5,000 users per server on Avaya CS 1000

A Platform for Further Communications-Enabled Business Applications

Avaya Client Applications deliver client-side integration to various desktop applications and clients. Although the client-side plug-in for Lync integration to Avaya Aura Communication Manager and Avaya IP Office does not require Avaya ACE™, other desktop applications do require Avaya ACE, as does the Avaya Microsoft Lync integration to Avaya CS 1000 (unless front-ending CS 1000 with a Collaboration Pack for ACA Lync Integration expected to be available in H1 2013 with an ACA 6.2 Service Pack update). Avaya ACE™ is Avaya's software platform for communications-enabled applications (CEA) and business processes (CEBP). Its key differentiator is rapid and simple integration of Avaya Aura® and multi-vendor communication systems with business applications and workflows. Avaya ACE provides toolkits for IT developers who may not have telecom expertise. Avaya ACE toolkits consist of both high-level Web services for simple application integration and low-level foundation services for fine-tuned control of call flows across an Avaya Aura® Session Manager network.

Learn More

For more information on how Avaya Microsoft Lync Integration can help your organization gain competitive advantage by integrating business applications and processes with your existing communications systems, contact your Avaya Account Manager or Authorized Partner and visit **www.avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
11/12 • UC4791-03

AVAYA

The Power of We™

Avaya One Touch Video solution

A video and collaboration solution for enterprise, remote, Internet-based and mobile users.

With technology creating greater opportunities for collaboration, the possibilities to improve meeting efficiency, enable on-demand face-to-face meetings and offer remote customer service are changing at a rapid pace.

It's no longer enough to interact by voice, chat or e-mail alone — for either enterprise users or between customers and anyone in your enterprise. Live voice and video enables the ability to interact face-to-face via the Web, providing an efficient way to meet — and surpass — customer expectations.

Better communication for Internet and mobile users

Avaya One Touch Video enables personal voice, video and collaboration sessions between your company and your customers that have access to an Internet-connected PC, tablet or mobile device.

Individuals can interact with you or anyone in your enterprise by simply selecting a link from your Web page, or even from an e-mail. Suitable for environments where experts are located at another site, Avaya One Touch Video can provide face-to-face connection between customers at a branch or storefront kiosk with Customer Service representatives. A call can also be easily routed to Customer Service, where agents and experts are equipped with the context needed to help.

Context might include recent customer navigation on your Web site, in-process transactions, previous contacts and/or self-service attempts. This information proves invaluable in saving time and avoiding the frustration of retracing recent steps. It also improves the productivity of your staff, and provides insight for cross-selling or upselling opportunities to further satisfy customer needs.

Benefits

Face-to-face engagement

When you send an e-mail inviting someone to call you via Avaya One Touch Video, that person can call your personal desktop video device, a room conferencing unit or even a videoconferencing bridge with the click of a button. And when customers visit your Web site, video customer service is just a click away.

Cost savings while collaborating

With Avaya One Touch Video, the time and money spent traveling to a meeting or customer site can be eliminated with simple click-to-video capability. The customer or associate simply selects a link from your Web site, or one sent directly to them in an e-mail, and a video session is established. This convenience can speed decision making in closing sales (increasing revenue) or solving customer issues (increasing customer satisfaction). You and your customers will realize cost savings by eliminating Public Switched Telephone Network (PSTN) charges through this all-Internet-based communications solution.

Enhanced reputation

By offering new ways to respond quickly and easily, your organization can develop a positive reputation for relationship building and customer service.

Client-friendly

Since Avaya One Touch Video is a browser-based application, customer interaction is simple and fast. Your customers just click a link in an e-mail or on your Web site, and they are connected automatically.

Personal assurance

For peace of mind, you can conduct a pre-session testing of a user's microphone and camera. The customer can even see a display of audio controls, call and disconnect buttons, and user statistics.

Additional customer service benefits

Interact one-on-one from your Web site

Agents are available for one- or two-way voice or video conversation, text chat, or to share desktop content, still images, videos and other applications. A separate content sharing window and a text chat window are available to enhance the collaboration session.

Better customer correspondence

Agents and experts receive both external and internal context, such as Web pages visited, self-service attempts and previous contact history. Context improves knowledge of the customer, creates higher loyalty and reduces the time it takes to assist the customer.

Continuous context

If an agent needs to transfer a call, all video, audio, document sharing and text chat controls are also transferred to that next agent. When conducting three-way conferencing, the primary agent retains control, and only audio is shared between members of the session.

Lower cost of investment

Adding video collaboration capability to your contact center can reduce your upfront investment since you can leverage skills and routing infrastructure that are already in place. Additional savings can be realized with ongoing management and administration.

Improved quality control in customer engagements

By routing Web-based customer engagements through your standardized and centralized contact center, you can deliver multimodal, reliable messaging and service while leveraging existing contact center resources for staffing, reporting, workforce management and quality assurance to provide a consistent customer experience.

Call routing

When a customer initiates a session, the request is sent to the Avaya Aura Contact Center or Contact Center Elite for Avaya Aura Communications Manager as an incoming Session Initiation Protocol (SIP) voice and video call, where it is routed to an agent or expert. At any time during the call, the customer can receive self-help still pictures, Flash content or prerecorded video content, even while waiting in queue.

Broad range of industry uses

Avaya One Touch Video has a wide number of potential applications, spanning multiple industries. Imagine how Avaya One Touch Video could change the way you conduct business.

Enterprises — Collaborate with customers, vendors and suppliers outside of your network

Healthcare — Conduct a remote patient consultation

Help Desk — Enable a customer to see exactly what you're describing with relevant video demonstrations

Pharmaceutical — Provide on-demand live support from drug representatives to doctors

Financial — Conduct banking transactions online, or provide specialty services directly to a branch

Retail — Provide specialized in-store service from your expert staff or directly from a partner or product manufacturer

Learn more

To learn more about the Avaya One Touch Video solution, contact your Avaya Account Manager or Authorized Partner or visit us at www.avaya.com/innovations and www.avaya.com/video.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information, please visit **www.avaya.com**.

© 2011 Avaya Inc. All rights reserved. Unless otherwise noted, all trademarks identified by the ®, ™ or ℠ are registered trademarks, trademarks or service marks, respectively, of Avaya Inc.
11/12 • GCC4825

AVAYA
The Power of We™

Avaya one-X® Attendant

A communications dashboard for front desk personnel—and the critical first step toward customer service and business efficiency.

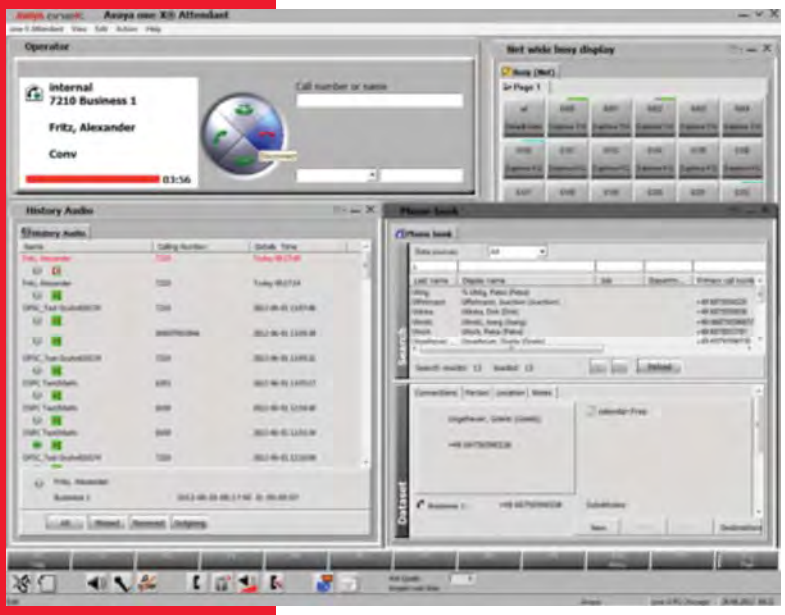
Your front desk personnel are constantly juggling phone calls, e-mails, instant messages and more.

Keeping tabs on the office—knowing who's available...where people are working...who assists whom—is critical to customer service and streamlining office operations.

If creating the right customer impression and making your office run more efficiently are important to your business, see what Avaya one-X® Attendant can do for you.

Avaya one-X Attendant is customizable software that puts familiar front desk communications tools on virtually any PC, including touch screens.

Integrating directly with your Avaya Aura® Communication Manager solution, as well as popular programs such as Microsoft Outlook and IBM Lotus Notes, Avaya one-X Attendant brings together the tools front-desk personnel—attendants, receptionists, assistants and others—need to deliver the service and support that callers notice.

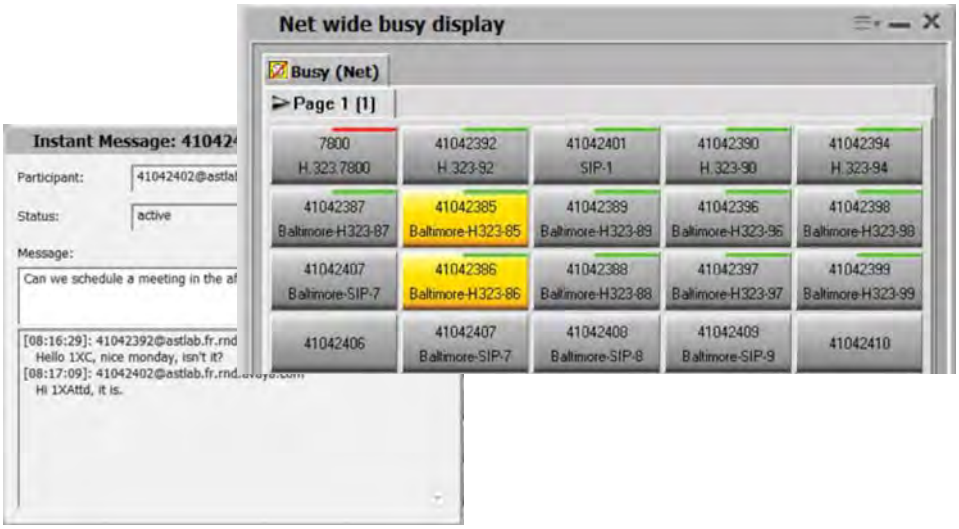


Streamlining Office Communications and Customer Service

First impressions count.

When someone contacts your front desk you want to be ready.

Avaya one-X® Attendant is a complete dashboard for front desk communications...and the critical first step toward customer service and business efficiency.



Personal Attention to Callers

When a call comes in, Avaya one-X® Attendant brings up information instantly so front desk personnel can welcome the caller personally, even using the caller's native language. Avaya one-X Attendant lets front desk personnel know which employee the caller typically speaks with and, if necessary, whether a backup is available. With one click, you can also alert colleagues by e-mail (via Outlook) or instant message.

When a call gets transferred, information about the caller can stay with the call so responders not only know who is on the line but also have access to other key information about the caller.

Managing the Office

With Avaya one-X Attendant, your front desk team can monitor up to 20,000 extensions across multiple locations powered by Avaya Aura® Presence Services—making it possible to put callers through to any desk anywhere on your network.

Extensions (i.e., Busy Lamp Fields) are color coded so the attendant knows, at a glance, who is free, in a meeting, out of the office, etc. before transferring the call. Calendar information from Microsoft Outlook or Lotus Notes appears both in the color-coded status display and in contact cards of the one-X Attendant phonebook, providing a quick overview of employee status at any given time.

You can customize the look of Avaya one-X Attendant the way you want. The flexible and freely configurable Avaya one-X interface makes it easy to keep the features used most often front and center. Extensions can be organized by tabs for department, location, special requirements, e.g., tabs could be designated for VIP or emergency situations.

Phone Book

Avaya one-X® Attendant provides your business with an integrated phone book with room for up to 250,000 entries for internal and external persons including telephone number, first name, last name, department, private number, e-mail address, room, project team, substitute, phone status free, busy, send all calls, etc. Operators can systematically search this data to identify the right contact for any given caller.

It's easy to keep the phone book up-to-date with personnel changes by setting it to automatically synchronize with Microsoft Active Directory or applications such as Microsoft Exchange or Lotus Domino and customer databases via LDAP/ODBC.

Web-based Absence Notification

Employees who do not use Outlook or Notes can use a simple Web-based tool to announce their absence from the office (e.g. lunch break or meeting) and to indicate when they will return. Employees can enter additional explanatory notes which can be viewed via the phone book. Once the deadline expires, the display is reset to the default status indicating that the employee is available to receive calls.

Grows with Your Business

You can easily expand Avaya one-X® Attendant as your business needs grow. The multi-location capability means that you can make Avaya one-X Attendant available for simultaneous operation on a number of networked computers. Authorized and properly identified users can log onto the system from any computer equipped with Avaya one-X Attendant and be greeted by the familiar user interface so they can start working immediately from virtually any location.

Protecting Sensitive Data

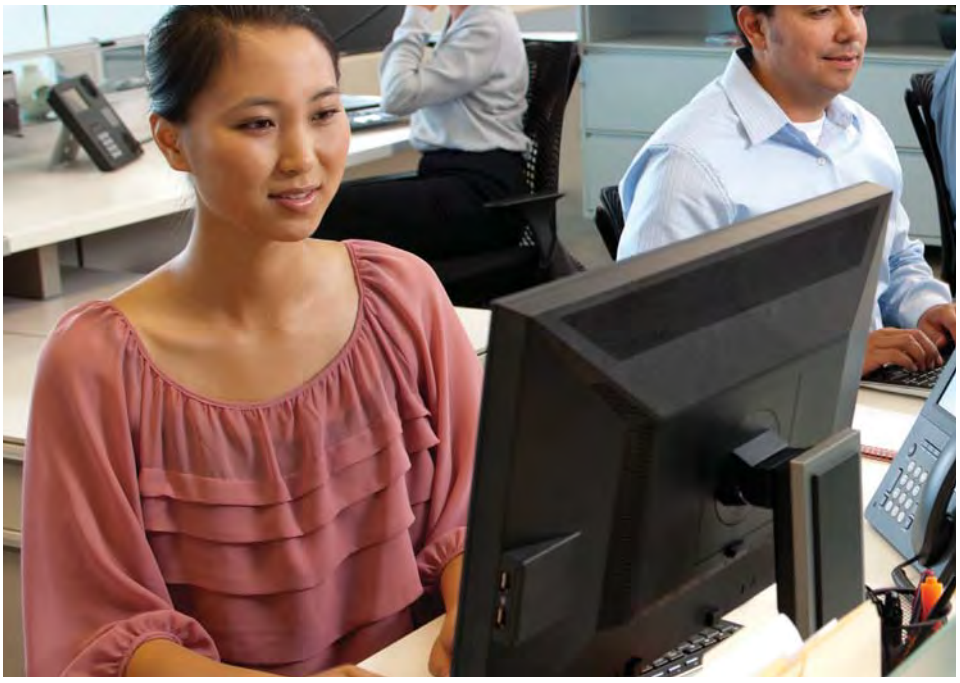
Protecting access to sensitive business and personal data is an important issue, particularly in companies where a number of different staff members or part-time employees perform front desk functions. Avaya one-X Attendant enables you to create user profiles based on different levels of access authorization and to assign individual employee areas of responsibility.

Requirements/ Configuration Options

Avaya Communication Manager: 3.1 and higher; maximum 25 Avaya one-X® Attendant clients per Avaya one-X Attendant server

Client PC: CPU 2 GHz; 1 GB RAM (2 GB for 64 Bit OS and in case of 3rd party products); 700 MB available disk space

Microsoft Windows: Windows 7 Professional/Ultimate (recommended), Windows XP, Windows Server 2008 SP2 / R2 Enterprise/Standard. Latest service pack has to be installed



Avaya one-X® Attendant At a Glance

- Greet incoming callers personally, including in-language
- See color-coded presence status of your entire staff: 20,000 extensions
- Leverage the enterprise phone book: 250,000 entries
- Monitor calendars
- Handle instant messages
- Create VIP lists of incoming callers
- Keep track of callers on hold and how long they have been holding

Display: 19”-monitor with 1280x1024 pixels (21” monitor for visually impaired users; COM port or USB to connect a Braille module)

Telecommuter Mode: requires external IP Phone

Road Warrior Mode: requires USB headset or phone, PC sound card and microphone

Virtualization: VMWare, Hyper-V

Groupware: Exchange 2007/2010 (support only 2007 feature set); Outlook 2007/2010; Domino Server 8/8.5 with Lotus Notes 8/8.5

Languages: English, Simple Chinese, French, German, Italian, Japanese, Korean, Portuguese (Brazilian), Spanish (LAT) Remark: “only” G13

Presence: Avaya one-X Attendant can display presence information from: Microsoft Outlook calendar, IBM Lotus Notes calendar, Microsoft Exchange/Microsoft Outlook “out of office assistant,” internal Avaya one-X Attendant Web access tool and all applications supported by Avaya Aura® Presence Services like Microsoft Office Communication Server.

Learn more

To learn more about Avaya one-X® Attendant, talk to your Avaya Account Manager or Avaya Authorized Partner or visit us at **www.avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
12/12 • UC7188

AVAYA
The Power of We™

Avaya one-X® Mobile

Overview

Easy to deploy, use and secure, the Avaya one-X Mobile client helps enterprises maintain business continuity and lower expenses by delivering UC applications and services to mobile users. The extension of business communications to mobile devices helps ensure that employees can be accessible and productive while on the move, improving business collaboration and customer care.

To keep business moving forward, users have access to Avaya Aura® services and rich capabilities through a broad range of mobile devices including smartphones and tablets. Avaya one-X Mobile is available across popular platforms such as Apple iOS, Google Android, and Blackberry supporting BYOD and CYOD (Choose Your Own Device).

Avaya one-X Mobile Lite: quick and easy to deploy in large volumes, one-X Mobile Lite simplifies user access to Avaya Extension to Cellular (EC500) telephony features through an intuitive smartphone UI.

Avaya one-X Mobile: provides an easy-to-use, powerful set of productivity enhancing capabilities through Avaya one-X Client Enablement Services.

Avaya one-X Client Enablement Services: enriches the user experience and client capability by extending features not accessible through one-X Mobile Lite. Client Enablement Services is a single platform that delivers Avaya Aura communication services to one-X UC clients including one-X Mobile and one-X Communicator; delivering BYOD security features for confident deployment of enterprise communications on personal devices.

Avaya one X Mobile SIP: allows companies to reduce mobile charges where low cost data connectivity is available (i.e. wifi) with a VoIP client for smartphones.

Key Benefits

Improve reachability: simultaneously ring up to four devices (deskphone, smartphone, home phone, tablet, etc.) with one-number portability. Seamlessly transfer calls back and forth between devices.

Increase employee productivity and address mobile costs with secure anywhere access to Avaya Aura core services and rich unified communications.

Never miss a call; mobile workers are always available to colleagues and customers while travelling, working from a partner's office or roaming campus.

Easy to deploy and manage through a broad choice of BYOD devices; mobile phone charges are minimized through intelligent handoff from cellular-to-wifi and VOIP.

9/11/2013 12:07 PM BidSync Page 1387 of 1712 p. 1430

Avaya Client Enablement Services (CES)

CES provides additional subscriber services to one-X Clients by accessing Avaya Aura core services on behalf of each client. CES enriches the user experience and client capability with the extension of rich features including:

For Users:

- Corporate Directory Access
- Visual Voicemail
- Message Waiting Indicator
- Presence
- Personal Status Message
- Ring-phones Group
- Call Back
- Favorites/VIP list
- Call Filtering/Screening
- Shared Contacts
- Call Block
- Session History

System:

- Turnkey appliance or software-only installation
- BYOD Security
- Back-end adaptors for telephony, messaging, presence and directory services
- Extensive LDAP Integration options

Increase productivity: rich enterprise telephony drives higher efficiency and collaboration. Features include: visual voicemail, single corporate voicemail call history logs, unified contact lists, corporate directory, dial by extension VIP Lists, IM and aggregated presence.

Speed collaboration and decision making: users can bring experts into conversations to resolve issues in real time with mid call features such as add a call/conference, hold and resume, transfer, park.

Reduce cost: reduce long distance charges with least call routing - critical with international calls. Minimize cellular usage by routing campus mobile calls through the enterprise network, with intelligent cellular-to-wifi hand-off and transfer of calls between mobile and deskphone.

Leverage BYOD and maintain business identity: protect company brand and employee privacy - PBX business number is displayed for outbound calls. Users can make and receive calls calls through the enterprise network for business or directly for personal calls.

Single number access: make it easy for customers to reach sales and experts with just one number. Single number reach eliminates the complexity of multiple numbers (mobile, deskphone, etc.) speeding access to and collaboration between employees, partners and colleagues.

Support reporting regulations: comply with industry reporting regulation through call logs and system integration with recording and tracking features for mobile calls.

Auto-Configuration: simplified provisioning and configuration for large Avaya one-X Mobile deployments.

Mix-and-match licensing: Avaya Aura Suite Licenses (mobility suite) lets enterprises choose the right client for individuals and groups based on unique roles and user profile.

On-demand: it's easy to get started. Users simply download clients from mobile markets (Apple AppStore, Google play, etc.).

Key Features

An intuitive graphical user interface delivers quick access to Unified Communications functionality. The solution is compatible with most enterprise mobility environments, independent of devices deployed or cellular service provider. Key features include:

Feature Highlights	
Single Number Reach	Simplify customer communication with elimination of multiple reach numbers
Single Number Outbound	Maintain PBX number for business identity and BYOD privacy
Simultaneous Ring	Ring up to 4 devices, mobile or fixed
Visual Voice Mail	No need to dial in, corporate VM is visual for quick prioritization
Corporate Directory	Easy access to corporate contacts through search function
Call logs	Never miss a call, see entire corporate inbound call history
Single Voice Mail	Any business call not answered is sent to corporate VM
Favourite List	Prioritize incoming calls. Non VIP numbers can go directly to VM
Dial by Office Extension	Place calls using using internal extension dialing plans
Call from Contacts	Speed connection with direct dial from contacts list
Call Routing	Route incoming calls to any device based on schedule/location
Multiple Line Appearance	Simultaneously manage multiple calls
Control Buttons	Hold/resume, add a call/conference, transfer, park, speakerphone
Mobile Switcher	Move calls between mobile devices and desktop/deskphone
VoIP-Cellular Handover	Operates on both wifi and cellular; hand-off from cell to network reduces cost
Network Quality Indicator	Visual indicator of current state of network connection

System Requirements and Support

Avaya one-X Mobile 6.1.X	iPhone (one-X Mobile UC)	BlackBerry	Android
Mobile Platform	OS 5+	OS 5/6/7	OS 2.3/4.x
Core	CM 5.2.1+	CM 5.2.1+	CM 5.2.1+
One-X CES Support	Required	Yes (optional)	Yes (optional)
Aura CM EC500/ FNE Support	n/a	Yes	Yes
CS1000 Mobile Extension Support	n/a	n/a	n/a
Aura SM – SIP Support	n/a	n/a	n/a

Avaya one-X Mobile Lite 1.X	iPhone	BlackBerry	Android
Mobile Platform	OS 5+	OS 5/6/7	OS 2.2/2.3
Core	CS1000 R7.5+	CS1000 R7.5+	CS1000 R7.5+
One-X CES Support	No	No	No
Aura CM EC500/ FNE Support	Yes	n/a	n/a
CS1000 Mobile Extension Support	CS1000 R7.5+	CS1000 R7.5+	CS1000 R7.5+
Aura SM – SIP Support	n/a	n/a	n/a

Avaya one-X Mobile SIP for iOS 6.2	iPhone (one-X Mobile SIP iOS)		
Mobile Platform	iOS 6+		
Core	Aura 6.x (SM 6.X)		
One-X CES Support	No		
Aura CM EC500/ FNE Support	Yes		
CS1000 Mobile Extension Support	n/a		
Aura SM – SIP Support	Yes		

Learn More

Avaya is a global provider of business collaboration and unified communications, contact centers, data solutions and related services to companies of all sizes around the world. To learn more about Avaya one-X Mobile and other solutions please visit **www.avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
07/13 •UC7295

AVAYA
The Power of We™

Avaya one-X® Communicator

Increase employee productivity and reach-ability to colleagues and customers with anytime, anywhere mobile access to Avaya Aura® core services and rich unified communications. Deliver business results in real-time by connecting people together. Whether traveling, teleworking from a partner's office, or roaming throughout the main campus for meetings and team projects, Avaya one-X® Communicator pulls people together at the right time – whether through a desktop or laptop computer – providing faster access to information and quicker decision making.

To be productive, today's enterprise employees depend on multiple modes of communication including voice and video calling, email, instant messaging (IM), voicemail and fax.

Avaya one-X® Communicator is a rich unified communications client that provides enterprise users with simple, intuitive access to their everyday communications tools. Users can better manage communications tasks, making them more productive, responsive, and accessible regardless of where they are working on any given day. Avaya one-X Communicator provides rich collaboration through:

- **Unified communications** with voice, HD video, instant-messaging, audio conferencing, voicemail and fax messaging together in a simple and intuitive software application enables greater productivity and the ability to use the most effective communication style for every situation.
- **Seamless integration** of directory, contacts and presence allows instant access to both corporate and personal contacts, tells you if a contact is available and lets you start a conversation with IM, email, voice call or video call helping save time, reduce interruptions and missed connections.
- **Adapts to your work-flow and environment** providing the best experience in the office, at-home or when travelling while helping reduce costs and providing one number for both inbound and outbound calls.
- **Enhanced IT control and deployment options** ease automated distribution and configuration and eliminate end-user confusion to reduce support costs and effort.

Employees can work from anywhere at anytime, allowing enterprises to maintain business continuity when weather gets in the way or customer demand spikes.

Key Customer Benefits

- **Streamline Communications** – Manage voice, video, voicemail, audio/video conferencing, email, instant messaging, and communication history all from a single interface.
- **Increase Productivity** – View presence and availability of collaborators along with contact options. Utilize visual voicemail*, conference bridge control*,

* Available only for Microsoft Windows version. Requires deployment with Avaya one-X® Client Enablement Services.

9/11/2013 12:07 PM BidSync Page 1391 of 1712 p. 1434

Easy to use and secure

Avaya one-X Communicator® is a rich unified communications client that helps enterprises lower expenses and maintain business continuity with the delivery of a consistent set of applications and services with ease of deployment to users. Real time access to your critical enterprise communication capabilities including voice calling, audio conferencing and access to corporate directories and logs improves business collaboration and customer service.

consolidated (24x7) call logs*, unified contact lists* and access to corporate directory for fast, easy, context-based communication.

- **Improve Collaboration** – Move beyond simple voice conferencing using high-definition video. Face to face communication improves productivity, streamlines decision making, and can help save money on travel expenses.
- **Provide Flexibility, Maintain Costs** – Selectable usage modes allow users to choose the best path for their audio: through their computer, to their deskphone, or to any mobile or landline phone. Users have complete call control through the client. All calls are routed through the enterprise PBX and managed by enterprise dialing plans and policies.
- **Simplify Deployment** – Deploy Avaya one-X® Communicator pre-configured or utilize the enhanced auto-configure capability. Remotely apply policies and administration for cost controls and security requirements.
- **Lower TCO** – Support for both H.323 and SIP communication protocols helps organizations standardize on a single softphone client for their entire enterprise workforce. An intuitive interface helps lower end-user learning curve and reduces help desk costs.

Feature Summary

- **Communication Integration** – Access all tools from one client including voice, high-definition video, voice and fax messages, audio/video conferencing, and communication history. Click to initiate emails and instant messages from Avaya one-X Communicator via Microsoft Office or Microsoft Office Communicator.
- **Intelligent Presence** – Know colleagues' availability and preferred communication options. See whether co-workers are online, on the phone, available to IM, in a conference call, traveling, or on vacation. Quickly determine the likelihood of reaching an associate by phone, IM, or high-definition video. Avaya one-X Communicator aggregates presence from Avaya and other sources via Avaya Aura® Presence Services.

- **Instant Messaging** – Users can chat in real-time with IM capabilities available directly within one-X Communicator.
- **Visual Voicemail*** – Visual access to voice and fax messages with the ability to filter and sort. Users can focus on what is important and quickly refer back to important messages.
- **Visual Conferencing*** – Click-to-Join makes it easy to start or join a conference call. Users can see who is participating and speaking. Moderators can identify noisy lines and music on hold, and mute or drop the line from the call.
- **Video** – Make high-definition video calls as easily as making a phone call. Unified audio/video features include call, transfer, forward, conference, hold, mute, call coverage. Make video calls to Avaya and compatible third-party video endpoints.
- **Click to Call** – Call anyone in your corporate directory, Microsoft Outlook contact list, or a phone number appearing on a web page or in an email. Return calls directly from voicemail, call logs, or from your buddy list with a simple click of your mouse, or choose wipe-to-dial to begin a call.
- **Usage Modes** – Select the best audio connectivity path to optimize performance while still taking full advantage of convenience of an all-in-one client. Take control of your office phone, make and receive calls from your mobile or home phone, or use voice over IP.

Deployment Options

- **Operating System Choice** – Clients are available for both Microsoft Windows and Apple Mac operating systems.
- **Standalone or Server-based** – one-X Communicator can be deployed in two different ways. In a standalone configuration, one-X Communicator provides access to voice calling, and access to corporate directories and call logs. On Microsoft Windows platforms, one-X Communicator standalone also provides intelligent presence, instant messaging, ad-hoc audio conferencing, video calling, and video conferencing and can allow organizations to integrate with other desktop productivity tools like Microsoft Office Communicator and Microsoft Outlook. When one-X Communicator is integrated with Avaya one-X® Client Enablement Services, users have access to a broader range of unified communications capabilities including visual voicemail, conference bridge control, and synchronized call logs and contacts.
- **Multi-Protocol** – Support for both SIP and H.323 protocols allow organizations to standardize on one client for their entire organization while future proofing their evolution to SIP. Shared presence between SIP and H.323 users enables network upgrades without user disruption.

Learn More

To learn more about Avaya one-X Communicator please contact your Avaya Account Manager or Avaya Authorized Account Manager or visit us at **avaya.com**.

Avaya one-X® Communicator for Mac OS

Users of Apple's desktop and laptop Mac computers can make better use of their desktop – whether in the office, at home or traveling – by using Avaya one-X® Communicator for Mac OS to access their SIP-enabled, Avaya Aura® communications environment. Flexible modes of operation enable the user to select a voice path via VoIP (using the computer for audio) or via an alternate voice path such as home phone or mobile phone. Regardless of mode selected, complete call control is achieved on the Mac.

System Requirements and Support

Please refer to the Overview and Planning for Avaya one-X® Communicator document located on Avaya's support site for additional details.

Supported Languages

English (US & UK), Chinese (Simplified), Dutch, French (International), German, Italian, Japanese, Korean, Portuguese (Brazilian), Russian, Spanish (International)

Client Operating Systems – Support for Avaya one-X Communicator 6.1

- 32-bit and 64-bit systems:
  - » Microsoft Windows XP, with SP2 or higher; Home and Professional Edition
  - » Microsoft Vista with SP2 or higher; Enterprise, Ultimate and Business Editions
  - » Microsoft Windows 7; Enterprise, Ultimate and Professional Edition

Server Operating Systems – Citrix XenApp Deployment

- Windows Server 2003 (32 or 64 bit)
- Windows Server 2008 (32 or 64 bit)

Client Application Integration

- Microsoft Internet Explorer 6.0, 7.0 or 8.0
- Mozilla Firefox 3.5 and 3.6
- Microsoft OCS 2007 R2
- Microsoft Outlook 2007 SP1 or SP2 and Outlook 2010

Avaya Application Integration

- Avaya one-X® Speech 5.2
- Avaya Aura® Conferencing 6.0

For H.323:

- Avaya Aura® Communication Manager 5.2.1 or higher
  - » IM & Presence: Avaya Aura® Presence Services 6.1
  - » UC features: Avaya one-X® Client Enablement Services

For SIP:

- Avaya Aura® Session Manager 6.0 SP1 or higher
- Avaya Aura Communication Manager 6.0 SP1
  - » IM & Presence: Avaya Aura Presence Services 6.0 or 6.1
  - » Video in SIP: Avaya Aura Communication Manager 6.0 SP1 (For other Video requirements, please refer to the Avaya Aura® 6.0 Video solution offer definition document.)
  - » UC features: Avaya one-X Client Enablement Services

Enterprise Directory Integration

- Microsoft Active Directory Server 2003, Windows Server 2008 Active Directory Domain Services
- IBM Domino Server 8.5
- Novell eDirectory 8.8 SP2

Deployment and Management

- Landesk, Altiris, MS SMS desktop management tools
- DHCP

Minimum Server Requirements (Customer Provided) for Avaya one-X Client Enablement Services

- Two quad core 2.23 GHz or better CPU
- 16 GB RAM
- 2 x 146 GB hard drive
- DVD/CD Combination Optical Drive
- 100Mbps/1 GB network card
- Operating System Requirements:
  - » Red Hat Linux (default installation, not a minimal or SE installation)
  - » Red Hat Enterprise Linux ES release 5 (64 bit) updates covered by the posted policy. Latest updates will be supported.

Avaya one-X® Communicator for Mac OS

Supported Languages

- Internationalization with English localization

Supported Environments

- Mac OS X (Leopard 10.5.x or Snow Leopard 10.6.x)
  - » Intel Processor 1.6 GHz or greater
  - » 1 GB of RAM
  - » 1 GB available disk space
- Avaya Aura Session Manager 6 / Avaya Aura Communication Manager 6 / Avaya Aura System Manager 6
- Avaya Aura SIP Enablement Server 5.2.1/ Avaya Aura Communications Manager 5.2.1

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.

08/11 • UC3896-07

Avaya Aura® Experience Portal

Avaya Aura® Experience Portal delivers a new model for customer experience orchestration that helps you improve customer loyalty, reduce costs, and drive growth.

Avaya Can Help You

- Automate interactions across all media and modes
- Improve customer satisfaction and loyalty
- Reduce staff, telephony, and equipment costs
- Accelerate time to market of new services
- Maximize return on investment

AVAYA

The Power of We™

Overview

In today's socially networked world, organizations know they must meet customers on their own terms to keep them not just happy but more than satisfied. It is critical to be proactive about managing your customer's end- to-end experience. Yet, achieving that goal can be an overwhelming task. How do you maintain a personal relationship with potentially millions of people across thousands of interactions and transactions – across all devices and media?

The latest innovations in contact center and context-based communications have ushered in a new era of customer collaboration, where dynamic real-time orchestration of every customer's interaction, across all modes and media, is now possible.

Experience Portal is Avaya's latest generation of our multiple award winning Avaya Voice Portal. It helps organizations automate and centrally manage multimedia self service and integrated voice response (IVR) applications. From inbound to outbound automated customer care, Experience Portal can help your organization reach a new level of customer satisfaction and business competitive advantage.

Key Benefits

What if your business had the ability to serve customers across multiple channels while lowering your service and operating costs? What if your technical staff were able to manage and administer all your enterprise self service applications, both inbound and outbound, from one common set of tools and interfaces? Experience Portal can do these things and more. It can help you;

- **Improve Customer Satisfaction** – Differentiate your brand experience across multimedia inbound and outbound self service, all blended seamlessly with support from your experts and staff when needed.
- **Lower Service Costs** – Lower service costs with convenient 24/7 automation of inbound and outbound interactions across multiple media.
- **Reduce Operating and Capital Expense** – Dynamically optimize self service to best serve your customers and your business. Reduce application and infrastructure costs and accelerate time to market of new services.

Key Features

Customer collaboration across "any media, any mode"

New devices and technologies have changed consumer expectations leading many organizations to consider full scale adoption of multiple channels and media. Experience Portal supports a wide array of service options, from voice, video kiosk, mobile, and integrated voice and video response to outbound voice, email, and SMS text interactions. In addition, Experience Portal supports sophisticated conferencing, video, call back, and enterprise routing capabilities that can help you further realize more powerful, fully automated service experiences.

Open platform lowers costs, simplifies integration

Experience Portal is a software-only solution that runs on off-the-shelf hardware and software. It is based on Web services and web communications standards like VoiceXML and CCXML to allow lower cost, simpler integration with your existing web and enterprise application environment. Easy to use Web service integration tools allow faster service creation and lower

Imagine the Possibilities

- A smartphone user conducts basic voice/video self-help then is queued for immediate or scheduled callback from technical support
- A caller who recently completed an order online is provided the latest status before other self serve options are offered
- A subscriber is immediately notified via SMS about a suspicious purchase and offered the chance to take action
- A mobile caller conducts a speech-based transaction and immediately receives a confirmation code via SMS on their phone
- A service provider automates field service appointment reminders as well as post service customer surveys
- While queued for an agent, callers are dynamically served highly targeted information and service offers
- A local retailer sends an SMS alert to subscriber customers about a "one day only" sale

development costs by leveraging existing applications and web infrastructures. Organizations can build, manage, and maintain multimedia self service applications using the same skills, tools, and interfaces used for existing web applications.

Distributed, highly scalable architecture

Experience Portal can scale to support from a few to tens of thousands of automated voice and multimedia interactions. It can be deployed in a virtualized environment, helping reduce business' hardware footprint, lowering the capital and operational expenses of self-service. Support for Web services, Media Resource Control Protocol (MRCP), VoiceXML, and other standards allow for separation of application logic from the underlying communications and speech infrastructure, delivering a highly flexible and reliable solution.

Flexible contact center deployment options

Experience Portal supports “in front” and “networked” PBX configurations across TDM, IP, and SIP environments. When deployed in front of the PBX, Experience Portal can directly terminate SIP service provider trunks and conduct self service before calls land on the PBX or ACD. This helps eliminate costly pre-route, post-route, and data directed dialing charges and helps reduce the contact center infrastructure footprint. A “networked” PBX configuration behind the PBX and ACD is optimal when organizations require minimal changes to their existing infrastructure.

High reliability for mission critical service

Experience Portal has been architected to meet the most stringent performance and "high availability" requirements that today's mission-critical speech-enabled communications applications demand, while helping businesses lower ownership costs. Unique dynamic license pooling and high availability automatic failover capabilities maximize continuity of both outbound and inbound campaigns and services.

Built-in application level reporting

Experience Portal collects an extensive set of call, session, and application record detail that can be presented within fully customizable web-based reports. It combines detailed built-in application level reporting with true enterprise wide reporting and analytics through Avaya IQ to provide managers with a holistic understanding of key customer and operations business data. Centralized multiple system management and reporting allow a single “cockpit” view into all live systems with operational indicators.

Records are accessible through an open interface for integration into virtually any existing enterprise reporting system (e.g. Cognos, Crystal Reports, etc.) or information can be conveyed through Avaya IQ or Avaya Operational Analyst for

cradle-to-grave contact center reporting.

Experience Portal includes detailed application reporting, automatic "breadcrumb" reports of a customer's experience at every step of an interaction, plus transactional roll-ups. Application and caller information can be combined in unique ways with other external resources ("Web mashups") such as overlaying caller detail report data with mapping data to see the geographical distribution of caller information for visual trends analysis.

Centralized application and systems management

Experience Portal includes a multi-tenant, roles based management system, Experience Portal Manager, to provide a single place for access to applications, system, and server information and data. Experience Portal Manager is a web-based interface to Experience Portal, allowing users to provision and manage applications, manage outbound campaigns, generate reports, as well as monitor the system and applications. It supports centralized management of key features like Avaya Intelligent Customer Routing for enhanced wait treatment and load balancing as well as applications like Avaya Proactive Outreach Manager for outbound phone, email, and SMS campaigns.

Businesses can empower non-IT managers to locally manage their own applications and to change service behavior on demand when needs dictate. For example, local retail managers can issue their own outbound alerts or customer surveys as well as update key self service information such as hours of operation, announcements, or greetings as needed without requiring specialized development or testing resources.

Application investment protection

Experience Portal provides a seamless migration path for organizations moving from TDM/IP to SIP-based contact center architectures. Also provided free of charge is Avaya Aura® Orchestration Designer 6, an Eclipse-based development environment (IDE) for creation of Experience Portal multimedia self service and Avaya Aura® Contact Center workflow applications. Orchestration Designer also supports creation of VoiceXML applications for Avaya Interactive Response and Avaya Media Processing Server (MPS) as well as speech and multimedia applications written for prior releases of Avaya Voice Portal.

Existing MPS Developer and MPS VoiceXML applications can be run on an MPS Application Processor managed within Experience Portal. This helps businesses centralize management and reporting across both existing MPS applications and new services built using the latest in Experience Portal multimedia automation.

For existing Interactive Response users, common platform licensing allows users on Avaya maintenance to receive free product upgrades and support. Orchestration Designer, Interactive Response, and Voice Portal share the same VoiceXML browser allowing existing VoiceXML applications written in Avaya Dialog Designer to be managed from Orchestration Designer and run on Experience Portal. This approach helps reduce application deployment risks, increases self service application portability, and helps ensure a consistent user experience.

Components and Architecture

Experience Portal was designed specifically for today's networked IP and SIP based enterprise contact centers. The solution is fundamentally divided into four components: Experience Portal media servers, Experience Portal Manager, Orchestration Designer, and the Application Execution Environment. Individual components reside on separate servers or for smaller scale deployments can be loaded on a single server.

Experience Portal media servers

Experience Portal media servers provide automation functionality such as terminating telephony sessions, interfacing to third party speech and other multimedia services, and management of VoiceXML and CCXML sessions. Media server software integrates via H.323/SIP and RTP/C to IP Telephony infrastructures while managing external speech and media resources. Experience Portal supports both the Avaya Media Server and Experience Portal Media Processing Platform.

EP media servers include a fully programmable CCXML session manager which supports dynamic control of multiple voice dialogs and sessions with advanced call control functions such as on host conferencing, advanced answering machine and human detection, and programmable SIP headers. Mixing of multi-channel streams is also performed. A fully-standard VoiceXML Voice Browser supports recording of caller utterances as well as a complete call and session detail collection for reporting. Secure session management includes encrypted signaling encrypted audio, secure communication with external application servers, and mask sensitive data within management and user logs.

Experience Portal Manager

Experience Portal Manager provides centralized operations, administration, management and provisioning interfaces for Experience Portal, Proactive Outreach Manager, Intelligent Customer Routing, and other Avaya and Avaya Partner applications. An easy to use Web-based interface provides support for the following management functions:

- Media servers which support all concurrent self service sessions across your enterprise
- VoIP, application, and speech resource provisioning
- Fail-over in case of loss of a media server by reclaiming licenses and registrations from the affected servers and automatically redeploying to spare capacity or spare servers.

Experience Portal Manager includes a Simple Network Management Protocol (SNMP) Management Information Base (MIB) to external Network Management Systems such as IBM Tivoli or HP OpenView.

Avaya Aura® Orchestration Designer

Orchestration Designer supports application development for Experience Portal, Voice Portal, Interactive Response, Media Processing Server, and Avaya Aura® Contact Center. It is a complete Integrated Development Environment (IDE) allowing faster and less costly application design, coding, debugging, testing, simulation and deployment. The tool is provided at no added cost with every Experience Portal and Avaya Aura® Contact Center purchase and is downloadable from Avaya DevConnect on avaya.com.

Application Execution Environment

The application execution environment can be deployed in a virtualized environment, helping reduce business' hardware footprint, lowering the capital and operational expenses of self-service. is the Web Server host, like an Apache Tomcat Web Server, that serves the standards-based VoiceXML and CCXML script to the Experience Portal media servers when called. This approach lowers IT management costs by allowing your organization to reuse existing web application servers for application management.

Conclusion

Take your customer experience to a new level. Employ the latest automated customer care best practices and technologies to help lower your costs while delivering a superior customer experience.

Learn More

For more information about how Avaya Experience Portal can support your business, please contact your Avaya Account Manager, Avaya Authorized Partner, or visit us on our Web site at **avaya.com**.

Key Features

Customer collaboration across "any media, any mode"

Open platform lowers costs, simplifies integration

Distributed, highly scalable architecture

Flexible contact center deployment options

High reliability for mission critical service

Built-in application level reporting

Centralized application and systems management

Application investment protection

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
06/11 • GCC2784-06

AVAYA
The Power of We™

Avaya Aura® Call Center Elite Multichannel Feature Pack

Mounting pressures in today's marketplace — increased competition, squeezed budgets, and sophisticated customer expectations for service — have presented challenges for all organizations, whether large or small. With the competition tougher than ever and limited organizational resources it is almost impossible not to feel like you are under siege. In this type of market, midsize businesses feel the pain more — it's more complex for you to absorb these challenges as readily as larger businesses that you may compete against. To succeed, midsize organizations must find ways to overcome these challenges:

Avaya Aura® Call Center Elite Multichannel enables customer service sophistication and differentiation, through an efficient deployment model that leverages existing investments.

- **Dealing with fast changing business cycles** and fiercer competitive landscapes that can out resource you
- **Reducing costs permanently** so you are using fewer resources to compete with larger enterprises
- **Driving efficiencies throughout your business** employing smaller support teams to be more cost effective
- **Differentiating your services from larger competitors** to continually grow the business
- **Gaining competitive advantage as products become more commoditized** and price to value becomes a priority

Getting ahead of rapidly evolving customer expectations means you must deliver value and provide a **differentiated customer experience**. And this needs to be accomplished in a way that optimizes resources and expertise across the business, while lowering operating expenses.

Faced with these service imperatives many organizations begin searching for technology that can help them achieve efficiencies and provide a high degree of functionality, while being easy to implement and maintain. They start by looking for tested and proven packaged solutions that can help make the difference in their customers' experiences. The Avaya Aura® Call Center Elite Multichannel Feature Pack is proven technology that allows businesses to meet these objectives. Call Center Elite Multichannel enables customer service sophistication and differentiation, through an efficient deployment model that leverages existing investments. In other words, it can help you keep customers on track and satisfied while helping to optimize your existing resources.

The key to improving your customer experience

In good times and even in the midst of uncertainty, managing the customer experience is critical for long term business stability and even for the continued existence of your organization.

The Call Center Elite Multichannel Feature Pack is a multi-purpose customer service solution. It provides a reliable, integrated, affordable multichannel contact center solution and rich and compelling customer experiences. It is designed for midsize firms or divisions of large enterprises who are seeking ways to achieve operational efficiency, increase revenue and improve customer satisfaction and retention.

The Call Center Elite Multichannel Feature Pack offers options for contact handling so your customers are treated in an efficient manner. Yet it also enables agents to more effectively respond to their needs. Intelligent routing of contacts — getting the right agent at the right time— is a proven key driver of customer satisfaction. An added benefit — it can also help you reduce costs while delivering greater business value.

The 21st Century Contact Center

Avaya Aura® Call Center Elite with the **Multichannel Feature Pack** is a fully featured contact center solution with applications for multichannel, inbound and outbound contacts, and integrated real-time and historical reporting.

Avaya Aura Call Center Elite runs on our market leading Avaya Aura Communication Manager and can easily be adapted to include non-voice contacts with the Multichannel Feature Pack. The solution provides robust multichannel routing capabilities for today's 21st century contact centers, and can manage the collection, queuing, and delivery of voice and non-voice work items, such as e-mail and text or web chat sessions, to an appropriately skilled agent. The powerful routing algorithms that reside in Avaya Call Center Elite Software determine the right resource for the right contact. The Elite Multichannel solution is modular so it is flexible and can accommodate change as businesses grow and evolve. Plus, the solution integrates seamlessly with Avaya Experience Portal for self-service options and with Avaya Call Management System for advanced reporting and customization. So whether you are an existing Call Center Elite customer that wants to add multichannel easily and affordably to your existing contact center, or you are considering Call Center Elite Multichannel for your new contact center environment, Avaya offers a solution that will turn your customer service operation into a 21st century contact center.

Avaya Call Center Elite Multichannel allows customers to make contact via voice, e-mail, fax, SMS text or instant messaging. Regardless of whether the customer prefers speaking on a telephone, sending e-mails, texting on a smart phone, or chatting over the internet, Elite Multichannel provides a universal work queue by leveraging an Avaya Automatic Call Distributor (ACD) for all supported channels. So that contact will be placed in a single queue and then routed to an agent with relevant tools, skills, and knowledge to handle the request.

Easy to implement and simple to use, Call Center Elite Multichannel also delivers:

- Out-of-the-box desktop applications for agents and supervisors
- Framework applications: intelligent routing, interaction data and centralized configuration
- Integrated outbound preview and progressive dialing, automated or agent-initiated
- Powerful application development tools for customization and integration
- Simple and fast wizards for desktop screen pops and routing rules

Key features of Call Center Elite Multichannel

- **The right resource at the right time.** By capturing resource skill sets in the routing database, contacts are routed to the right resource by skill type, regardless of contact channel. Universal agents who support multichannel contacts can improve response time measurements, improving service levels and increasing agent efficiency.
- **Optimal performance management.** Reporting is pivotal to a contact center's success. The solution offers basic out-of-the-box performance reporting on all real time and historical activity in the contact center environment. Supervisors can choose to display the information in grid format or report layout. For more sophisticated contact center reporting, Avaya Call Management System is available for more robust consolidated reporting needs.
- **Proactive customer engagement.** From callbacks to targeted campaigns, these simple and effective integrated outbound dialing tools can improve customer engagement and balance agent inbound and outbound calling.
- **Simple wizards facilitate ease of use.** Built-in wizards make configuration easier and faster. By leveraging best practices in contact center configurations, Avaya has created pre-defined desktop screen pops and routing rule definitions. This can shorten timelines, allowing business operations to commence more rapidly.
- **Enhance customer experience through advanced treatments.** Unique algorithms and capabilities such as Expected Wait Time, Abandoned Call Assistant, and Customer Requested Call Back

deliver operational efficiencies and increase customer satisfaction.

- **Expand agent knowledge with customer history.** Call Center Elite Multichannel agent desktop displays a list of previous customer contacts to help ensure that agents have all of the pertinent context in order to better serve customers.
- **Pre-built Microsoft Dynamics CRM Connector.** This allows office workers to call individuals in Microsoft Contacts and Accounts lists, and view contact screen-pops with inbound contacts.
- **Integrated Wallboard application.** It displays real-time and statistical information on Vector Directory Number (VDNs), skills or splits and agents in a marquee window. Installed on agent PCs, the scroll bar of information allows agents to closely track their personal work performance and the performance of their work group (skill or split).
- **Chat canned messages.** Agents using chat canned messages are able to make use of personal or corporate specific messages such as "Hello, my name is Sally, how may I help you?" In addition, an agent can configure an e-mail address in the event that no agent is available or a customer attempts to contact a call center after hours. Chat messages can also be used to inform or advertise information about a new or existing promotion.
- **Keyword based routing.** Allows the administrator to identify keywords, which characterize the content of an e-mail. Keywords can be defined and associated with a group of experts, which in turn can improve routing and deliver higher quality and faster e-mail responses.
- **Avaya Experience Portal integration.** Through the integration of Experience Portal, customers will gain an "all in one" contact center suite experience by configuring Experience Portal within the Elite Multichannel control panel in addition to improving their customer service. Avaya Experience Portal is sold separately.
- **Avaya Aura® Workforce Optimization (WFO) integration.** Managing the agent workforce requires sophisticated WFM tools. By automatically forecasting staffing requirements to meet call.

Value Driven Results with Avaya Call Center Elite Multichannel

With Call Center Elite Multichannel you can:

- Improve customer satisfaction by offering them their preferred method of interaction (e.g. voice, e-mail, web chat, Instant Messaging, and SMS).
- Increase investment value by building upon existing Avaya Aura® Communication Manager, Call Center Elite, and Call Management System platforms.
- Enable business anywhere and scale operations as conditions change by employing strategies such as home agent, remote worker, and universal agent while integrating these with the business ecosystem of branches, partners, and suppliers.
- Optimize contact center operations by improving the handling and tracking of customer requests through contact center routing and management capabilities.
- Optimize productivity and increase agent effectiveness by using Computer Telephony Integration (CTI) screen pops, unified agent desktop, and universal work queue for multichannel and blended inbound/outbound communications.
- Increase customer loyalty by leveraging information from previous interactions or purchases to create a personalized experience.
- Improve agent job satisfaction and reduce attrition by offering agents the opportunity to remain productive with varied work schedules that include voice and non-voice contact handling; providing a break from the routine.
- Enable competitive differentiation and build lasting relationships by implementing effective customer relationship strategies across all contact channels.

Avaya Client Services

Rapid technology changes are creating a challenging, complex, multi-vendor environment, leaving enterprises searching for ways to keep up and move forward under economic pressures. This environment creates a gap between the availability of new technology and the ability to consume it. Avaya Services addresses the technology gap to capitalize on your investment and enables clients to achieve the true benefits of technology by removing complexity, improving performance and accelerating ROI.

From assessing business needs to designing, implementing, managing and maintaining the solution, Avaya Services provide a range of options to supplement or support your internal resources in addressing business needs.

Learn More

For more information about how Avaya Aura Call Center Elite and the Multichannel Feature Pack can support the challenges and demands of midsize businesses, please contact your Avaya Account Manager, Avaya Authorized Partner or visit **avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

Avaya Global Support Services

Avaya has extensive global experience delivering services in complex client environments. Avaya Services is an award winning organization and has been recognized for many years for its excellence in customer service and support in North America.

Protect your Avaya enterprise communications solutions with standardized global support services designed to give your business maximum flexibility and uptime. This powerful and modular support offer is Avaya Support Advantage. With Support Advantage, you get industry-recognized Avaya services in the fastest response times we've ever offered. And there is a Support Advantage package that's right for you, whether you take a hands-on approach to managing your environment, or opt to rely on Avaya or one of our Avaya channel partners. You can choose from simple-to-use, flexible Support Advantage services to:

- Build a simple support strategy tailored for your business.
- Leverage intellectual property, like Avaya award-winning web-based tools on a 24x7 basis.
- Benefit from a world-class remote diagnostic tool that can identify, isolate and resolve 99 percent of system- generated alarms.
- Implement security policies quickly via the Avaya Secure Access Link Policy Server to reduce network security risks.
- Maintain peak network and application performance to better serve your customers and help your employees be more productive.
- Realize the potential of your communications investment.

Avaya Professional Services

Professional Services enable businesses to leverage their communication technology investments to drive measurable business results. These services intersect at each point of the customer communications lifecycle continuum and are delivered in three customer facing portfolios of Enablement, Optimization and Innovation.

Enablement Services: Assures successful implementation of technology allowing maximum benefit of investments.

Optimization Services: Leverages existing technology investments towards increased ROI.

Innovation Services: Leading technology services allowing companies to reach new levels of business potential and market competiveness.

Avaya Managed Services

Avaya provides a portfolio of services that address customer business issues. Avaya Managed Services help reduce customers' IT workloads and can accelerate deployment while improving overall performance and reducing costs. The Avaya portfolio of offers are globally consistent, IT Infrastructure Library (ITIL)-aligned helping to ensure best in class service.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
03/13 • CC7165-01

AVAYA

FACT SHEET

Expanded Meet-me Conferencing

Reservation-less, Meet-me Audio Conferencing

Avaya Expanded Meet-me Conferencing provides reservation-less, meet-me audio conferencing capability for up to 300 users per system, including up to 300 participants in a single conference. Tightly integrated with Avaya Communication Manager, Expanded Meet-me extends the value of an organization's investment in Avaya infrastructure, by providing convenient access to cost-effective, on-demand conference calls. Using the product, organizations can hold conference calls at any time, without paying recurring or per-use fees for simple reservation-less calls. Most organizations can realize an ROI in 4 to 6 months, and save thousands of dollars monthly, compared with outsourced services.

Enhancements over 6-party Meet-me Conferencing

Expanded Meet-me Conferencing leverages the same features, administrator and user experience found with the current 6-party Meet-me conferencing capability of Communication Manager, including entry and exit tones, and single pass code for entry (participant and moderator). It also provides:

- Expanded capacity up to 300 parties per conference
- Enhanced phone display, including real-time view of participants joining and dropping, and ability to scroll through the list of participants
- Host ability to mute selective participants
- Support for all types of end points: analog, DCP, BRI, H.323, and SIP

The software-based solution runs on an Avaya S8500C server and connects with Communication Manager v3.0 Linux-based servers via encrypted signaling links (TLS - SIP standard), and uses same operating system as CM (RedHat Linux 8.0).

Benefits

- Cost-effective reservation-less conferencing for up to 300 parties per system
- Easy to acquire, configure and use, as it does not change the user experience associated with 6-party Meet-me
- Tight integration with Communication Manager for simple deployment and management
- TLS link for secure connectivity between Communication Manager and the conferencing server

- Same administrator interface and phone display as current 6-party Meet-me conferencing, providing a familiar user experience
- Support for all types of end points: analog, DCP, BRI, H.323 and SIP

Technical Specs

Hardware Requirements

- S8500C server
- S8500C server runs the Expanded Meet-me Conferencing application
- IBM x306 server with SAP
- OS: RedHat Linux 8.0
- Modified version of Communication Manager's HAP
- SIP Trunk interface between Communication Manager and conferencing server (TLS link for secure connectivity)

Software Requirements

- Includes a modified version of Communication Manager's HAP
- SIP Trunk interface between Communication Manager and S6200 server (TLS link for secure connectivity)
- SAMP card required for remote access and restart
- Conference control remains in the Communication Manager, while audio summing and conditioning are done in the Expanded Meet-me server.

Learn More

To learn more about how Expanded Meet-me Conferencing can benefit your organization, contact your Avaya Client Executive or Authorized BusinessPartner, or visit **avaya.com**.

About Avaya

Avaya delivers Intelligent Communications solutions that help companies transform their businesses to achieve market-place advantage. More than 1 million businesses worldwide, including more than 90 percent of the FORTUNE 500®, use Avaya solutions for IP Telephony, Unified Communications, Contact Centers and Communications Enabled Business Processes. Avaya Global Services provides comprehensive service and support for companies, small to large. For more information visit the Avaya Web site: http://www.avaya.com.

AVAYA
INTELLIGENT COMMUNICATIONS
avaya.com

© 2007 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and may be registered in certain jurisdictions. All trademarks identified by ®, TM or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc., with the exception of FORTUNE 500 which is a registered trademark of Time Inc. All other trademarks are the property of their respective owners.
07/07 • MIS2745-02

ISO CERTIFIED

AVAYA
The Power of We™

IP Office Preferred Edition

For Optimal Responsiveness and Professionalism

Overview

IP Office *Preferred Edition* delivers intelligent communications capabilities that enable staff to collaborate easily and respond quickly to customers and colleagues. With *Preferred Edition*, businesses can use communications to establish a competitive edge – through intelligent call routing, sophisticated messaging – and call handling and application integration. IP Office *Preferred Edition* enhances all the capabilities of *Essential Edition* and much more.

Capabilities

- **Scalable, Sophisticated Voicemail** – Handle up to 40 simultaneous calls to voicemail. Broadcast a single voicemail to all employees, a specific department or just one team. Address messages by extension or name. Have IP Office find you and notify you of new voice messages.
- **Secure "Meet Me" Conferencing** – Built-in 128-party conferencing means all users can host their own password-protected conference bridge (up to 64-parties per conference) to enhance collaboration. Host a multitude of calls simultaneously. Add optional HD video to conference with colleagues.
- **Automated Call Routing** – Create unlimited automated attendants (with an unlimited number of levels) for sophisticated call routing. Customize to handle calls by time of day, day of week or other variable. Recognize callers and deliver personalized messages to them. Pre-record announcements (holiday greetings, promotions) and schedule for future use.
- **Call Recording** – Recording of incoming or outgoing calls is built-in. Set the frequency of recorded calls (all calls, a percentage of calls). Record with the push of a button, and send recordings directly to voice/email mailboxes for forwarding via email.

Benefits

- **Investment protection** – Expandable as your business grows. Handles ten times more voice messaging capacity than Essential Edition to accommodate a higher number of calls from customers and additional users.
- **Empowerment of all users within the business** – All users can spontaneously host their own personalized and secure conference calls.
- **Flexible management** – Easily adapts to your changing business needs.
- **Communications assurance** – With the ability to easily record calls no one would miss important information from a meeting.

Specifications

System Requirements	• IP Office 500 V2 system or IPOL/Server Edition Primary • Ethernet attached PC running Microsoft Windows Server 2003 (32-bit), Windows Small Business Server (32-bit and 64-bit), Microsoft Windows Server 2008 (32-bit and 64-bit), and Windows Server 2008 R2 • Ethernet attached PC configured with Applications Server DVD (Windows Operating System not required) • Voicemail synchronization in email and browser based access to voicemail works with any IMAP mail client (Microsoft Outlook) • IP Office 500 V2 system or IPOL/Server Edition Primary has 128 party conference capacity, and up to 64 parties on a single conference • Requires as many digital trunks/channels as external participants. For example, 1 T1 allows 23/24 external parties, 1 E1 allows 30 parties, etc. For complete and latest PC and Server specifications, refer to latest Avaya IP Office Technical Bulletin and Technical Tip documents.
User Requirements	• Any IP Office telephone
Feature Detail	**System Features** • Up to 40 concurrent calls for voice mail access • Voice storage dependant on PC hard drive size (1MB per minute) • Unlimited multi-level intelligent automated attendants • CLI/ANI number screening to personally answer and route known callers • Time and date profiles to cater for public holidays and emergency closures • Sophisticated in-queue announcements advises callers Estimated Time to Answer and Position In Queue • Multiple language support • Single, centralized voicemail solution when used with IP Office Multi-Site Option • Distributed voicemail solution available when used in IP Office Multi-Site Option • Message control: Save, Delete, Forward, Repeat, Rewind, Fast Forward, Skip Message, and Pause • Message retrieval options of LIFO/FIFO playback (Last In First Out/ First In First Out) • Set message as Priority, to be played first • Backup and restore locally or to a secure remote location • Outcalling notification of messages left in voice mail box **Conference Features** • Helpful voice prompts guide callers into the conference call • Unique PIN codes help ensure security for conference calls • Conference entry/exit tones; single beep on entry, double beep on exit. • Conference call recording • Conference call control (available with IP Office Power User, IP Office Teleworker, and IP Office Office Worker solutions) • 'Conference Room' automatically dials users and adds them if available (Requires Receptionist solution) **User features** • Record calls to mailbox • Personal attendants • Personalize greetings and pre-record extended greetings • Send notification, forward, and copy voice messages to email Inbox • Browser based access to voice messages • Message control from your PC (available with IP Office Power User, IP Office Teleworker, and IP Office Office Worker solutions)

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

Learn More

For more information on Avaya IP Office please contact your Avaya Authorized Partner or visit **avaya.com/small**

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
11/12 • LB4317-06

AVAYA
The Power of We™

Avaya Proactive Outreach Manager

Overview

Is your contact center forced to work overtime and drop outbound activities due to unexpected high inbound call volumes? Could you improve customer satisfaction if you had the time to proactively contact your customers about account issues? Would you like to increase your collections close rate or increase customer awareness of new products and services?

What if your business could reach out and interact with customers that have impending critical service or support needs? What if your organization could quickly take action on your customers anticipated needs and reduce inbound call traffic with proactive outbound contact? What if you had a low cost way to improve customer awareness of new services and offers?

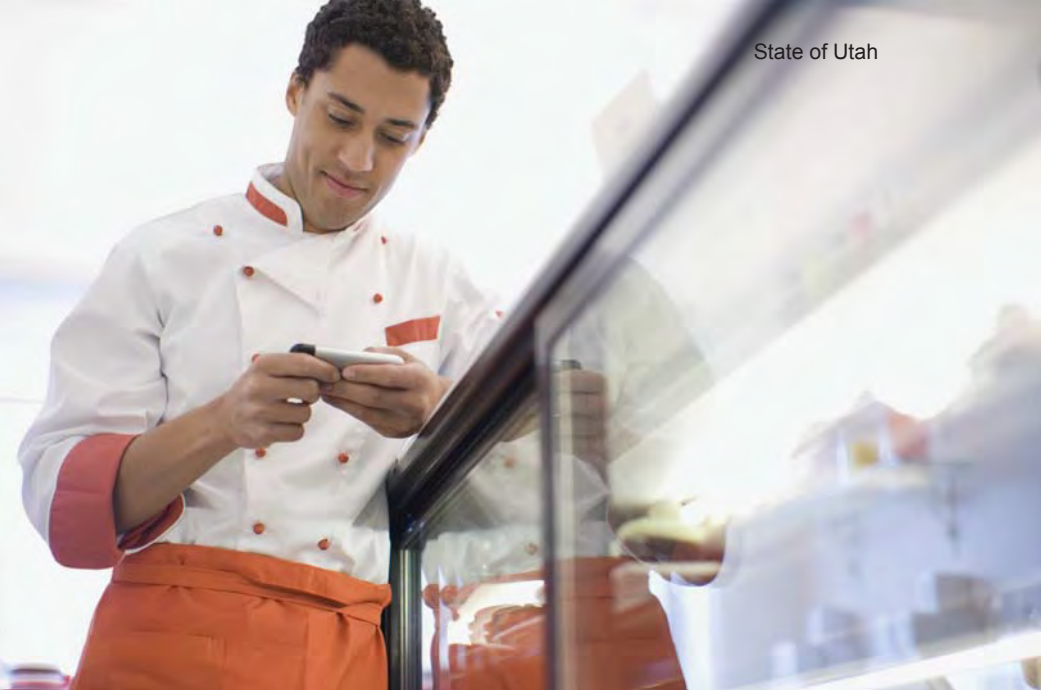
Avaya Proactive Outreach Manager does all these things and more. What is Proactive Outreach Manager? Proactive Outreach Manager is an application platform that enables organizations to design and manage high performance and cost effective automated notifications and outbound campaigns that reach out to customers via voice, email, or text messaging. These campaigns can notify customers of key information and enable them to take immediate action through automated self service or by a conversation with an agent.

Key Customer Benefits

Proactive Outreach Manager simplifies creation, execution, and management of outbound campaigns and notifications helping businesses reduce costs, increase revenues, and/or improve customer satisfaction.

Proactive Outreach Manager can help you:

- **Improve Customer Satisfaction** – Provide timely communication of information and status updates through email, SMS text or telephone based on the customer's preferences
- **Lower the Cost of Service** – Reduce inbound traffic by anticipating caller inquiries and allowing customers to take action. Lower outbound agent costs by automating simple interactions through lower cost email, IVR, or SMS text
- **Reduce OPEX and CAPEX Costs** – Uses Avaya Aura Experience Portal or Avaya Voice Portal for automated outbound campaigns allowing you to deploy mission critical automated outbound services that leverage and compliment your existing inbound self service applications
- **Generate Revenue** - Create and execute customized cross-sell and or up-sell campaigns to generate new or upgrade revenue



Proactive Outreach Manager is an application platform that enables organizations to design and manage high performance and cost effective automated notifications and outbound campaigns that reach out to customers via voice, email, or text messaging.

Feature Summary

- **Multichannel Blending and Escalation** – Design interactive voice, email, and text messaging campaigns that allow interactions to take place across multiple channels, such as providing information through one channel while allowing response through another. Design applications to move from email to text to voice on subsequent contact attempts based on contact urgency or other conditions like shifting from automated call to email after business hours. Applications can also support Preference Management approaches to help ensure consumer communication preferences are honored.
- **Campaign Design** – Leverage the powerful, open standards Avaya Aura Orchestration Designer environment to design interactive campaigns and notifications that dynamically adjust based on customer status, business rules, contact lists, call schedules, and agent availability. Build outbound campaigns leveraging existing inbound self service applications to expedite time to market of new services. Build contact lists using virtually any data source and add new contacts to existing campaigns without interrupting campaign execution.
- **Advanced Outbound and Speech Capabilities** – Employ human voice and answering machine detection to leave personalized message (e.g. "Sorry we missed you…") when a non-"live" contact is detected. Utilize prerecorded prompts or the latest speech technologies to design highly effective, automated customer communications.
- **Contact Center Integration** – Design automated outbound campaigns to complement and extend beyond your existing inbound contact center and outbound agent campaigns. Provide customers the ability to request transfer to an agent with screen-pop to expedite their agent-based interaction.
- **Campaign Throttling** – During automated campaigns that provide the option to transfer to an agent, control the volume of outbound contact attempts based on inbound agent queue times. Leverage key data like "Expected Wait Time" to automatically throttle campaign contact attempts to manage call service levels for transactions requiring agent assistance.

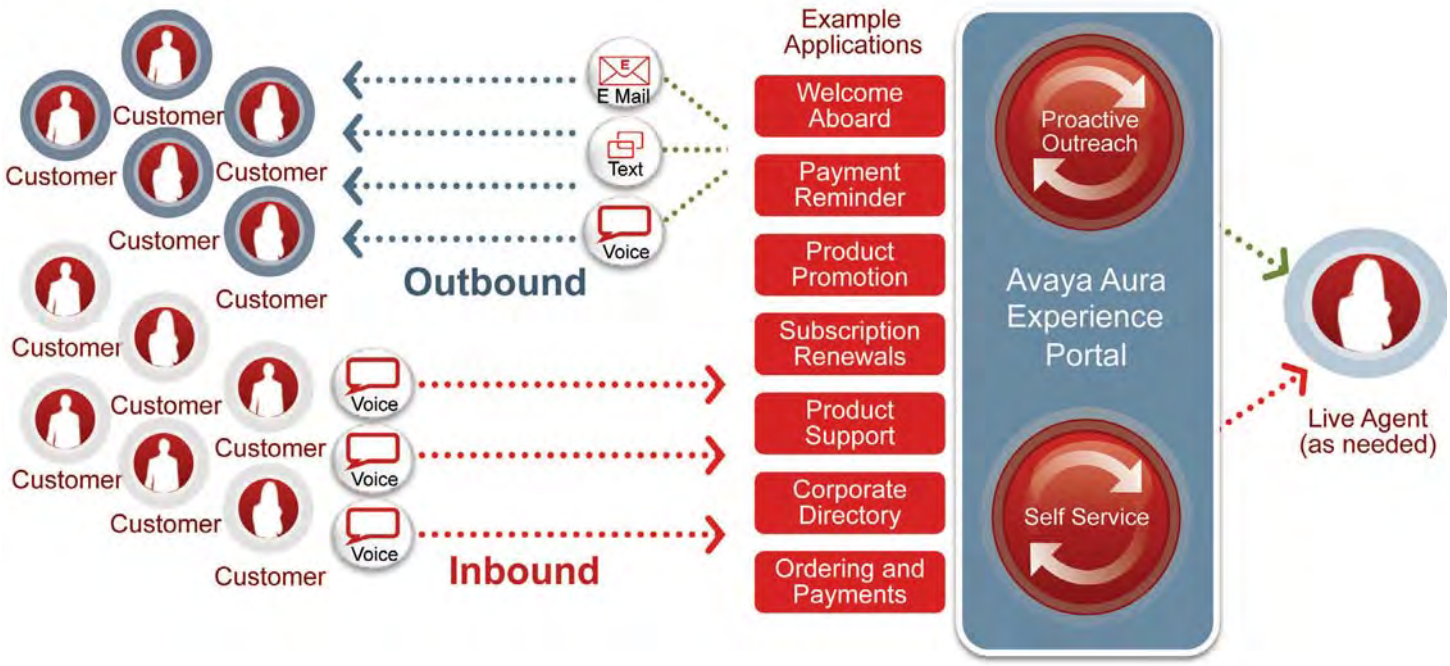
- **Shared Customer Status** - Shares customer status in real-time such that preferences (e.g. opt-in/ opt-out) or status changes (e.g. delinquent bill is paid) are reflected in real-time across all other concurrent campaigns.
- **Campaign Tracking and Reporting** – Track campaign status in real-time via web browser accessible reports. Monitor and analyze campaign effectiveness with real-time and historical reports that provide a unified view of campaign activity and customer status.
- **Multi-tenancy** - Empower business leaders across your organization to design and manage their own outbound campaigns. Leverage multi-tenancy and roles based access to centralize access and control to relevant systems, campaigns, detailed customer data, and reports.
- **Unified Application Management** – Proactive Outreach Manager leverages Experience Portal Manager or Voice Portal Manager to simplify management and administration costs by unifying access to campaigns, applications, and customer data for both outbound campaigns alongside inbound self service applications.
- **Compliance** – Stay compliant with the latest government regulations. Proactive Outreach Manager supports key capabilities like Do Not Call lists, Opt-out, and Opt-In.

Platform Requirements

Proactive Outreach Manager leverages Experience Portal and Orchestration Designer and prior releases of Voice Portal and Dialog Designer for campaign creation, management, and reporting.

Outbound applications run on the same high availability architecture designed and developed specifically for mission critical customer self service applications.

With Experience Portal, organizations can quickly build multi-channel self service campaigns that seamlessly blend outbound notification with inbound self service interactions – all on the same platform. This approach provides organizations a means of vastly simplified management and administration of both inbound and outbound self service applications and client data.



Proactive Outreach Contact Flow

Conclusion

Today's organizations are challenged to continually improve customer satisfaction and revenues while dramatically lowering costs. To improve in all these areas, many organizations have moved to automating outbound customer care. Automating outbound self service and notifications is a great way to expand customer service and support as well as reduce and shape live customer call volume to lower cost, automated channels. This approach can result in a significant reduction in service cost while in most cases also improve service levels, enterprise responsiveness, and end customer satisfaction.

Learn More

For more information about how Avaya Proactive Outreach solutions and Avaya Proactive Outreach Manager, contact your Avaya Account Manager, Avaya Authorized Partner or visit us at **avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
07/13 • GCC4526-01

AVAYA
The Power of We™

White Paper

Session Initiation Protocol Trunking - enabling new collaboration and keeping the network safe with an Enterprise Session Border Controller

Table of Contents

Executive Summary 1
Starting Points 1
The Four Essentials 2
The Business Case for SIP Trunks 3
New Possibilities, New Challenges 4
Security 5
Enablement and Protection: Interlinked 6
Deploying a Session Initiation Protocol Trunk Securely and Effectively 7
The Destination: SIP-Enabled Unified Communications 7
Summary 8

Session Initiation Protocol (SIP) trunking is a Voice over Internet Protocol (VoIP) service based on the Session Initiation Protocol by which Internet telephony service providers deliver telephone services and unified communication to customers equipped with private branch exchange (IP-PBX) facilities. SIP trunking extends the capabilities of enterprise telephony systems by enabling new features and functions; the primary method of terminating SIP trunks within the enterprise is via an enterprise session border controller.

Flexible and cost-effective, SIP trunks make a great deal of business sense to deploy because your organization can use the converged Internet Protocol (IP) connection for all communication with calls routed over your carrier's IP backbone using Voice over Internet Protocol (VoIP).

Yet as with any technology, SIP trunking requires some education to derive maximum benefit from a SIP trunking solution and it also it pays to understand its dimensions especially security and deployment challenges. Fortunately, with the right solution the necessary security can be enabled and deployment challenges resolved.

This paper will look at the business case for deploying SIP trunks, the requirements for securing them and the features needed in a SIP trunk security solution.

Starting Points

IP technology has radically transformed voice and data communications and has also transformed the ways we think about voice and data communications. Historically where separate infrastructures were needed to carry different types of traffic, now one can handle it all, yielding significant economies in the process. At the same time, new features and functions are enabled, bringing unprecedented flexibility and convenience to the daily tasks of the enterprise and increasing employee productivity.

SIP trunking, which uses the VoIP standard to establish an Internet-based connection between the public switched telephone network and your enterprise's SIP-compatible gateway or IP Private Branch Exchange (PBX) is also changing the way businesses and organizations communicate.

The benefits of SIP trunking are many. It eliminates the need for costly time-division multiplexing trunks and gateways and introduces innovative capabilities to direct and manage communications. For unified communications, SIP trunks deliver expandable bandwidth that enables a new generation of rich media services including: high-fidelity voice, high-definition video, and video-based collaboration.

With SIP, traffic is not limited by the strict time slot capacity of time-division multiplexing trunks and call capacity can be scaled easily. Bandwidth can be allocated dynamically based on the application mix or number of sessions to help ensure optimal performance of applications in use.

A Different Frame of Mind

Just as VoIP originally enabled voice convergence with your enterprise local area network (LAN), SIP trunking enables voice convergence externally over the wide area network/Internet. And for that reason, it requires a change in the way your enterprise should think about your voice networks.

In the past voice networks were truly private, isolated and self-contained. SIP trunks create an interface with the public networks (e.g., the Internet or a service provider network) extending beyond your enterprise's borders. Because your voice network is no longer isolated and self contained, to protect the security of all communications, demarcation points must be well defined, privacy of communications ensured and fine-grained control applied to enforce call routing and security policies.

The Four Essentials

Security is a fundamental prerequisite to an enterprise-grade Session Initiation Protocol trunk, yet it is all too often overlooked. Any comprehensive security solution for Session Initiation Protocol trunking must provide:

- **Enablement:** facilitation of seamless and secure enterprise communications with high quality of service;
- **Control:** effective management of users and their access to services, features and functions, ensuring that the system and its resources are utilized in keeping with business needs, user requirements and security policies;

- **Protection:** end-to-end assurance against signaling and media vulnerabilities;
- **Demarcation:** clear line of defense and termination for Session Initiation Protocol trunks within the enterprise.

The object is to allow companies to derive the greatest benefit from their SIP trunk solutions, unimpeded, while ensuring the overall integrity of the network and its traffic and show substantial return on investment.

The Business Case for SIP Trunks

SIP trunks present a compelling business case to enterprises for a number of reasons. The capital cost is lower than that of traditional Public Switched Telephone Network connectivity because there is no need to own lines or Time-division multiplexing equipment (which also has the longer-term advantage of lower maintenance costs) SIP trunks can also support a greater number of lines than conventional primary rate interface connections. And they can deliver local, toll-free, domestic and international long distance service at a much lower cost than is possible in a Time-division multiplexing-based Public Switched Telephone Network scenario.

As an example, consider a large enterprise of 2,500 employees with an over subscription rate of 10:1 (10 users to 1 SIP Session) and an estimated long-distance tariff for traditional long distance calling of $0.04 per minute. If 250 simultaneous voice calls must be supported at any given time using Time-division multiplexing, it would be necessary to deploy 11 primary rate interface connections over T1 lines to meet the demands. And if a Time-division multiplexing gateway does not already exist, one would have to be deployed at a significant capital cost.

The same organization with the same needs could deploy Session Initiation Protocol trunks to support 250 simultaneous Voice over Internet Protocol calls in a Session Initiation Protocol trunk scenario. The session border controller in the network demilitarized zone can be either the industry standard carrier Session Border Controller or a purpose built Avaya Session Border Controller for Enterprise. In either case the long-distance cost Session Border Controller could potentially be half that of the Public Switched Telephone Network scenario.

It's not surprising then that enterprises are moving to SIP trunks to shed the cost of Public Switched Telephone Network trunks and gateways. Increasingly, instead of simply swapping out one infrastructure for the other and using SIP trunking as a means of enabling same-old voice services, more and more enterprises are realizing SIP trunks also support real-time unified communications applications, which provides the potential to increase the productivity of their workforces. In large part, one of the most important decision to make when moving to SIP trunks is in selecting the type of appliance to be used for the enterprise demarcation point.

FIGURE 1: shows how the Avaya Session Border Controller for Enterprise solution can rapidly payback associated costs in less than a month.

Time-division multiplexing Option				Carrier Session Border Controller Option				Avaya Session Border Controller for Enterprise Option			
Item	Qty	Unit Cost	Total	Item	Qty	Unit Cost	Total	Item	Qty	Unit Cost	Total
Capital Cost (list price)				Capital Cost (list price)	1	$174,000	$174,000	Capital Cost (list price)		$39,000	$39,000
Total Capital Cost				Total Capital Cost			$174,000	Total Capital Cost			$39,000
Monthly Operating Costs				Monthly Operating Costs				Monthly Operating Costs			
PRI connection	11	$1,000	$11,000	PRI connection	250	$20	$5,000	PRI connection	250	$20	$5,000
LD charges	5000	$0.04	$1,000	LD charges	25,000	$0.02	$500	LD charges	25,000	$0.02	$500
Total Monthly Operating Costs			$12,000	Total Monthly Operating Costs			$5,500	Total Monthly Operating Costs			$5,500
PAYBACK				28 Months				5 Months			

New Possibilities, New Challenges

The fundamental components of the SIP trunk architecture on the enterprise side include:

- A PBX (either IP-based or hybrid Time-division multiplexing and Internet Protocol) to process enterprise call functions
- User devices connected to the internal network
- Border elements that create a 'demilitarized zone' between the internal network and the Internet beyond the point where the SIP trunk connects for to the Internet telephony service provider's network.

Key functions required within a conventional SIP trunk architecture include: topology hiding, Quality of Service reporting, SIP routing, high availability and threat protection.

One of the challenges associated with SIP trunking today is that there can be many flavors of SIP. Though it is standardized, the standards allow room for flexibility and interpretation. Consequently, a PBX or firewall may be SIP-compliant on paper and still incapable of communicating effectively with other SIP devices. And there are PBX's that claim SIP interoperability that really possess fairly basic capabilities. They may be able to direct traffic to specific Internet Protocol addresses, but lack the finer functionality to perform more advanced calling features. Interoperability is hardly guaranteed, inside the network - or outside of it, in the service provider domain. These issues can generally be addressed by purchasing the right equipment and asking the right questions about its capabilities.

The right questions to ask:

- Does it perform NAT Transversal and Topology Hiding?
- Does it do SIP Normalization?
- Does it maintain SIP-NAT bindings?
- Does it perform access control?
- It is protocol repair capable?

Security

Imagine if one enterprise is attacked. The numerous servers running complex applications could be used to propagate attacks, impairing the trunk and causing denials of service not only to the originating enterprise but also to other customers on the same carrier network.

While SIP trunking provides many benefits as well as flexibility, distinct and more intensive security requirements required versus Time-division multiplexing. A Time-division multiplexing Public Switched Telephone Network gateway provides an explicit demarcation point between the enterprise network and service provider combined with engrained security features. So it is extremely difficult for a malicious external user to traverse the network interconnection and access the enterprise network through the traditional that trunk but it is fairly easy to do so when the interconnect point is Internet Protocol.

Because SIP trunks offer direct IP connectivity to the enterprise network, they are inherently more insecure than the Time-division multiplexing trunks. One Time-division multiplexing trunk contains one call while a one megabit link could contain thousands of SIP calls which increases the risk of a denial of service attack (an attempt to make a computer or network resource unavailable to its intended users) and the damage that may be caused. Implementing an Avaya Session Border Controller for Enterprise that is interoperable with all variations of SIP and has sufficient intelligence to facilitate the secure interactions with a variety devices can solve the problem, Avaya Session Border Controller for Enterprise is designed to solve deployment issues, prevent attacks and deliver value to the enterprise It helps you meet the requirements of enablement, control, protection, demarcation and return on investment.

Enablement and Protection: Interlinked

Important from an enablement standpoint is Network Address Translation traversal and how to protect against outside threats. Network Address Translation traversal is the process by which IP address information is modified inside of IP header messages. Because IP traffic is routed by headers, devices need to be able to look into packets and read the embedded addressing information. Yet traditional firewalls can't do this. Consequently, to permit external traffic to enter the network, service providers often require the enterprise to "open up" the firewall in ways that compromise security, reduce network control at the application layer, and prohibit the effective implementation of routing policies for SIP-based traffic.

Given the plethora of threats facing networks today, such openness is unacceptable. Changes to the firewall will open holes for attacks from external sources such as hackers, malicious users and spammers. According to the Communication Fraud Control Association, the body that monitors communication fraud, the crime of 'Phreaking' (hacking into a PBX and using it to route calls) actually costs United Kingdom businesses $2 billion to $2.4 billion per year[1]. Authorities estimate that telecoms fraud caused by security gaps cost businesses nearly $80 billion per year[2]. Other common attacks include Denial of Service/Distributed Denial of Service; Distributed Denial of Service message floods and fuzzing; stealth Denial of Service; and spoofing attacks. A Denial of Service attack on a VoIP system can be used to flood a phone with spoofed requests that overwhelm the phone's protocol stack and disables the device. A low volume variation on this kind of attack can cause VoIP phones to ring continuously. Other threats such as call hijacking, fraud and eavesdropping are also perils, and must be secured against with encryption and authentication. If the signalling and media traffic used for voice communication is not secured, voice packets can be captured and conversations reconstructed.

1 The Communications Fraud Association - 2011
2 Communications Fraud Control Association (CFCA) 2008 Survey.

In addition to protecting its network against attacks, your enterprise must have control over all aspects of its voice, video and data communications. This includes allowing or denying specific signaling, media and applications, and applying specific routing or security policies.

Deploying a Session Initiation Protocol Trunk Securely and Effectively

As mentioned previously, a Session Border Controller for Enterprise communicating via SIP to the IP-PBX, facilitates essential functions such as routing and Network Address Translation traversal, and provides security capabilities such as threat protection, access control, policy enforcement and privacy. In other words, to enable, control and protect enterprise Voice over Internet Protocol traffic. An Avaya Session Border Controller gives you that.

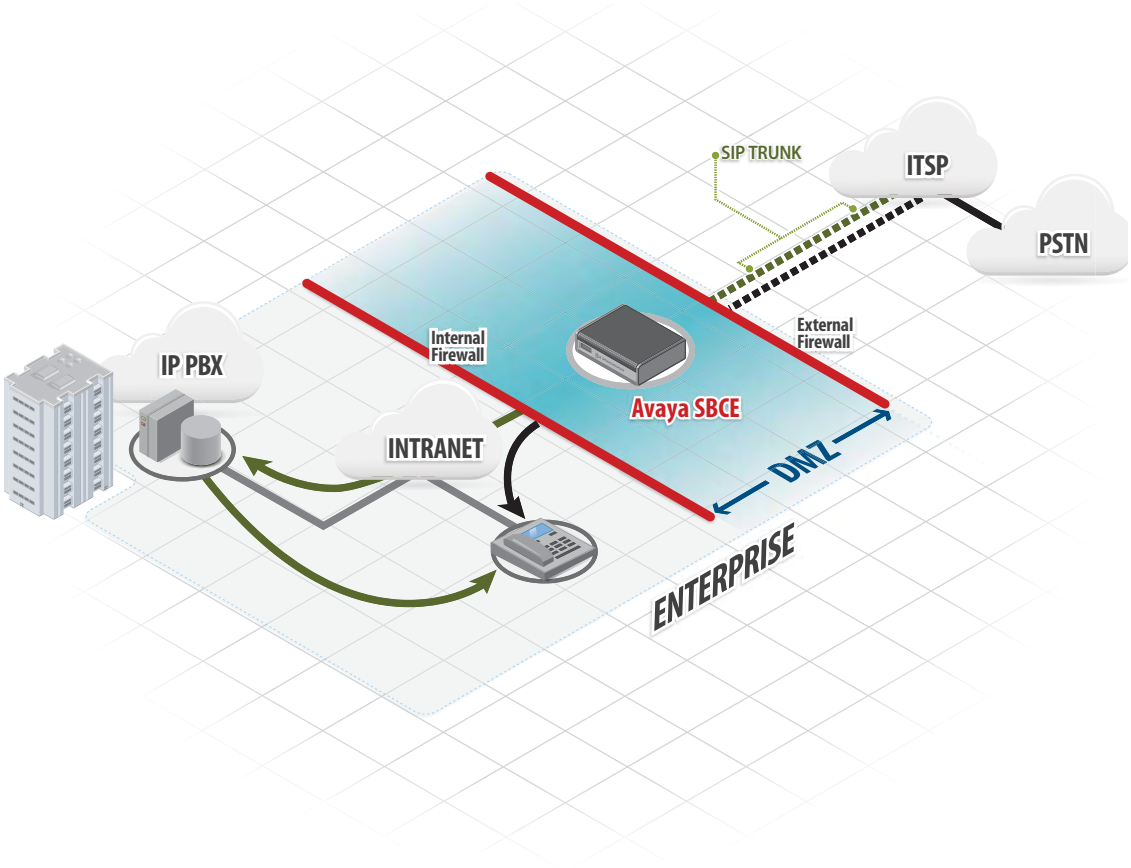
Your SIP trunk security device should provide for all of the following to ensure the four requirements of enablement, control, protection and demarcation are met:

- **VoIP threat prevention:** comprehensive SIP and media protection
- **VoIP policy compliance:** fine-grained policy enforcement
- **Secure Access:** firewall/Network Address Translation traversal and encrypted signaling and media proxy (Transport Layer Security and Secure Real-time Transport Protocol)
- **Demarcation:** clear line of defense and termination for Session Initiation Protocol trunks within the enterprise

The Destination: SIP-Enabled Unified Communications

SIP trunking provides a highly economical and versatile communications solution for enterprises eager to capitalize on the benefits of IP networks for both voice and data. Implementing a SIP trunk solution requires a shift in perspective; from conventional notions of what the network perimeter is to the kinds of functions required for security. The edges of the network are no longer “hard”: all manner of traffic flows in and out. SIP -enabled effective communications must meet the full range of enterprise requirements and yet protect against signaling and media vulnerabilities, and to handle demarcation and peering issues at the network edge.

A comprehensive SIP trunk solution will include an Avaya Session Border Controller for Enterprise deployed between the network’s internal and external firewalls because it can perform all the necessary functions for enablement, control and protection of Voice over Internet Protocol communications.



Summary

Avaya Session Border Controller for Enterprise offers one of the industry's best real-time application-layer protection against toll fraud and other VoIP/unified communications threats allowing enterprises to enjoy the benefits of SIP trunks.

The Avaya Session Border Controller for Enterprise enables safe SIP trunks for enterprises by:

- Creating a demarcation point for your enterprise and enforcing fine-grained security policies.
- Protecting against threats by blocking them at the enterprise perimeter.
- Performing firewall/Network Address Translation traversal to simplify the deployment of SIP trunks.
- Easily upgrading to advanced functionality, safe for any device over any network.

Built on a real-time platform and based on the ground breaking vulnerability research, the Avaya Session Border Controller for Enterprise has the most up-to-date protection against communications threats.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

Learn More

To learn more and to obtain additional information such as white papers and case studies about Avaya Session Border Controller for Enterprise please contact your Avaya Account Manager or Authorized Partner or visit us at **www.avaya.com/usa/product/avaya-aura**

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc
03/13 • UC4871-01

AVAYA
The Power of We™

The Evolution to Cloud Communications

The adoption of Cloud Communications by enterprises: An evolution, not a revolution

Table of Contents

Introduction 1

The Emergence of Private, Public and Hybrid Cloud Communication Solutions..... 1

Evolving to Cloud Communications 2

Enterprise Benefits from Cloud Communications 3

Cloud Service Provider Benefits from Cloud Communications 4

Avaya – The Leader in Collaborative Communications 4

The Avaya Collaborative Cloud™ Solutions..... 5

Why the Avaya Collaborative Cloud 6

Conclusion..... 6

Learn More 7

Introduction

The emergence and adoption of Cloud Communications is an important trend in today's Enterprise Communications and Collaboration market. Both enterprises and cloud service providers (CSPs) are seeing significant value from the introduction of managed, hosted and cloud communication applications and services.

While the concept of managed and hosted services is not new, the emergence of cloud architectures has redefined and reignited interest in subscription based Cloud Communication models. Every day, enterprise executives and IT organizations hear how "the Cloud" is a revolution that is transforming their industry. Yet the reality is, the adoption of Cloud Communications by enterprises will be an evolution, not a revolution.

Though there are important differences between managed, hosted and cloud services, the bigger story is the growing demand from enterprises interested in working with CSPs to manage, host and deliver communication applications from the cloud. The opportunities are exciting for both the enterprises interested in the benefits of Unified Communications and Collaboration applications and the Cloud Service Providers able to launch new communication solutions to drive new revenue streams and introduce differentiated offers.

This white paper presents the case for enterprises and CSPs to embrace managed, hosted and cloud communication solutions, enabling enterprise users to connect anytime, anywhere on any device by using communication and collaboration applications in more intuitive and meaningful ways. The paper also presents an overview of the solutions Avaya offers to help enterprises and CSPs adopt and benefit from the Cloud.

The Emergence of Private, Public and Hybrid Cloud Communication Solutions

Enterprises and CSPs have started evolving their communication and collaboration solutions to introduce private, public and hybrid Cloud Communication solutions enabled by virtualized, decentralized cloud architectures.

While the concept of managed and hosted services is not new, the emergence of cloud architectures has redefined and reignited interest in subscription based Cloud Communication models.

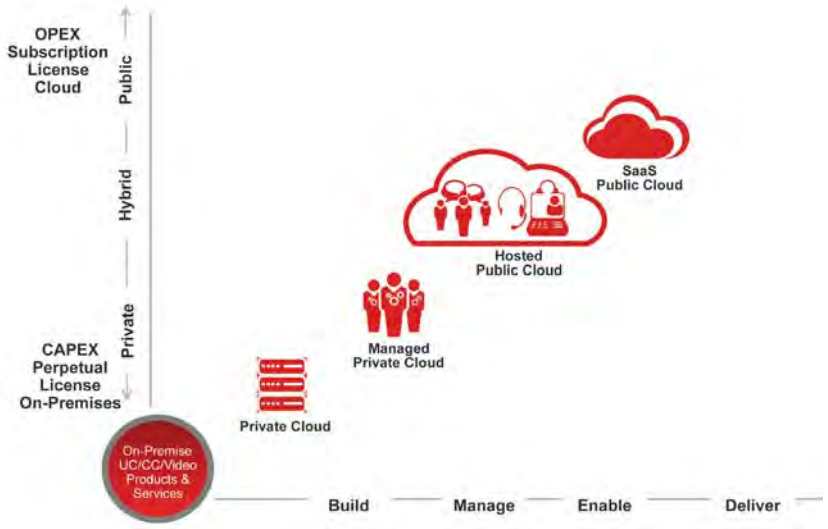


Figure 1 – The range of Cloud Communication options for Enterprises and CSPs

The evolution from on-premises Unified Communications (UC) and Contact Center (CC) applications toward Cloud Communications includes a progression in how the enterprise builds, deploys and consumes communication applications.

Initially, many enterprises have focused on the introduction of private cloud solutions as a complement to their on-premises communication and collaboration applications. Whether built by the enterprise or provided as a managed service, this approach enables enterprises to gain early benefits of decentralized communication applications while maintaining a private, secure deployment.

To gain the full benefits from a Cloud Communications solution, enterprises are considering the adoption of public, multi-tenant communication applications delivered as a hosted or cloud service. In most cases, the hosted or cloud communication service is delivered and billed under a subscription pay-as-you-go pricing model that enables an enterprise to match operating expenses with usage and demand.

In the space between the private cloud and public cloud, hybrid cloud communication solutions are emerging. Hybrid Clouds combine on-premises, private and/or public cloud communication applications and resources to maximize existing enterprise Unified Communications, Contact Center and Video investments by complementing them with new cloud applications.

Evolving to Cloud Communications

For most organizations, the path to cloud communications is not a quickly decided, all-or-nothing choice. It is more than simply selecting a private or public option, and determining when and how many communication and collaboration applications to migrate. Instead, many enterprises are using both

the private and public cloud – building their own private cloud for specific applications or departments while also utilizing a hosted cloud communications model for some applications in the public cloud. This creates a hybrid cloud model where resources are split between the enterprise and the CSP, and optimized for performance, cost and strategic priorities.

Organizations are engaging cloud communication solutions and services gradually, often starting with managed, private outsourcing of communication applications. Reasons for this gradual and balanced approach include:

- Preserving investments in on-premise equipment with depreciation life still remaining.
- Unproven return on investment and quality of service skepticism by IT professionals. Before making significant investments in new applications, some organizations may choose to minimize risk by using them in the cloud.
- Security concerns for sensitive data. Organizations may choose a balance of public and private cloud implementations to preserve control of intellectual property and meet data and organizational security needs.

Enterprise Benefits from Cloud Communications

Cloud Communications represents a significant shift in the way that enterprise IT resources are managed, operated, and consumed. Important benefits of Cloud Communications to enterprises can include:

Reduced capital expenses (CapEx)

Enterprises can reduce capital expense by optimizing infrastructure asset virtualization and leveraging the shared communication and collaboration resources available from hosted and cloud solutions. With these savings, enterprises can re-allocate IT resources to high-gain productivity opportunities across the department or business.

Efficient operating expenses (OpEx)

Cloud Communication business models typically introduce pay-as-you-go utility pricing billed on a monthly basis and treated as OpEx by the enterprise. This gives enterprises greater control over their expenses, delivering predictable monthly billing without costs for unused services.

Simplified experience and management

Cloud Communication solutions can establish a common, simplified overall application and infrastructure management while enabling a better, consistent experience for users and administrators.

Improved flexibility

Cloud Communication solutions introduce new, flexible ways for the enterprise to deploy, integrate and consume communication and collaboration services.

Faster deployment of applications

With Cloud Communications, enterprises can respond and scale quickly based on seasonality or demand fluctuations. They can also easily adopt new features for a subset of users before rolling out applications to a broader set of users.

Complexity Reduction

Enterprises gain a simpler environment by removing technology obsolescence concerns and receiving automatic system upgrades as changes occur and new features are developed.

Cloud Service Provider Benefits from Cloud Communications

By introducing hosted Cloud Communication solutions, CSPs help organizations improve business agility while optimizing budgets and resources. Enterprises can off-load the challenges of managing Bring Your Own Device (BYOD) environments, widely dispersed workforces and the shifting demands of end-customers. Cloud Communication solutions enable CSPs to evolve and augment enterprise communications with cloud-based solutions as well as provide greater interoperability by federating communications across vendors, domains and protocols. Cloud Communications benefits for CSPs include:

New UC, CC and Video revenue streams

With cloud communication platforms, CSPs can quickly introduce a number of new UC, CC and Video communication bundles to their enterprise customers.

Flexible platform with scalable capacity

Hosted Cloud communication platforms allow CSPs the flexibility to deliver multiple cloud communication bundles that are easy to manage as demand increases.

New value added applications and services

By adopting cloud communications platforms, CSPs can quickly define and deploy a broad range of new value added applications and services to their UC, CC and Video offers, customize offers, and differentiate their cloud communication solutions.

Avaya – The Leader in Collaborative Communications

Avaya is a leading global provider of next-generation business solutions, providing unified communications, real-time video collaboration, contact center, networking, and related services to companies of all sizes around the world. Avaya's objective is to give people the best collaboration experience – regardless of the device, location, or media they choose.

Avaya believes innovations in technology can enable collaboration. As organizations move toward a more geographically dispersed, 24x7 workforce, they need tools that will enable users to quickly solve all of their business challenges. Seamless and effective collaboration platforms are essential to support this objective.

The Avaya Collaborative Cloud™ Solutions

The Avaya Collaborative Cloud™ portfolio of solutions provides a strategic framework for delivering communication services and applications to enterprises and CSPs via the cloud. Providing both choice and flexibility, the Avaya Collaborative Cloud portfolio includes a variety of solutions that lets enterprises and CSPs build, manage, enable and deliver cloud communications and collaboration solutions. Enterprises can choose a private, public or hybrid cloud to support discrete services or holistic solutions.

Recognizing that the adoption of cloud communication solutions by enterprises will be an evolution, not a revolution, the Avaya Collaborative Cloud portfolio is focused on enabling enterprises to evolve, augment, federate and simplify their cloud communication and collaboration applications for Unified Communications, Video Collaboration, and Contact Centers. With the Avaya Collaborative Cloud solutions enterprises and CSPs can:

Evolve toward Cloud Communications and Collaboration

- Offer path, pace and choice across public, private, hybrid, managed, hosted and cloud options
- Manage costs and optimize investment through licensing choices
- Choose from flexible business models that accommodate variable business priorities

Augment on-premises enterprise applications with cloud communications

- Deliver overlay Avaya cloud applications to on-premises enterprise users
- Expand Avaya enterprise applications with partners' complementary cloud applications and services
- Enhance and complement existing solutions with innovative communication and collaboration applications

Federate cloud communications across enterprise domains

- Align users across different enterprise domains, platforms and protocols
- Interoperate from the enterprise to cloud applications and across clouds

Simplify and enhance user experiences

- Simplify and personalize user experiences
- Simplify communications environments
- Easily manage hosted applications and introduce new offers to enterprises

With the Avaya Collaborative Cloud portfolio of solutions, enterprises can evolve to the cloud on their own path and at their own pace. The Avaya Collaborative Cloud portfolio offers a number of flexible deployment options for private, public and hybrid cloud solutions, and helps provide investment protection by allowing enterprises to leverage existing endpoints as they migrate.

Why the Avaya Collaborative Cloud

Based on several unique Avaya differentiators, the Avaya Collaborative Cloud portfolio offers CSPs and enterprises a rich and compelling suite of UC and CC solutions. With the Avaya Aura® platform at its core, the Avaya Collaborative Cloud portfolio delivers an open architecture for both hosted and private cloud solutions.

The Avaya Collaborative Cloud solutions enable CSPs to offer hosted UC and CC solutions that address multiple segments without the need to manage multiple platforms and solutions from multiple vendors. All of the hosted Unified Communications and Customer Experience Management applications are managed by a single, centralized administration overlay. With the "pay-as-you-sell" utility license pricing, CSPs pay only for licenses used by their customers, providing a cost-efficient virtualized platform for hosted UC, CC and Video solutions. As customer needs grow, CSPs can expand their systems without significant upfront costs, giving them greater control over cash flow and expenses. Additionally, Avaya offers a full suite of professional services across managed, outsourced, hosted or cloud deployment models and support for go-to-market and joint marketing initiatives.

With the Avaya Collaborative Cloud portfolio of solutions, enterprises can evolve to the cloud on their own path and at their own pace. The Avaya Collaborative Cloud portfolio offers a number of flexible deployment options for private, public and hybrid cloud solutions, and helps provide investment protection by allowing enterprises to leverage existing endpoints as they migrate. Enterprises can optimize their business solutions by augmenting existing infrastructure with innovation applications from the Avaya cloud. The utility subscription pricing model shifts costs from capital expense to operating expense to help businesses match expenses as usage and demand scales. Finally, the Avaya Collaborative Cloud portfolio delivers a consistent and seamless user experience for enterprise users across on-premises, hosted and cloud communication applications while supporting the growing adoption of enterprise BYOD mobility options.

Conclusion

The emergence of cloud technologies and architectures has redefined and reignited interest in subscription based cloud communication models. While we will continue to hear how "the cloud" is a revolution, adoption of cloud communications will be an evolution. Thus, it is important to have flexible options – whether private, public or hybrid – to transition and gain the benefits of the cloud.

As enterprises and CSPs evolve toward cloud communication, each will have different business and technical drivers that will result in a number of different deployment models based on their priorities, path and pace of introduction. Many enterprises and CSPs have initially focused on deploying private cloud

solutions as a complement to their on-premises communication and existing collaboration applications. This approach enables enterprises to gain early benefits of decentralized communication applications while maintaining a private, secure deployment. Other enterprises and CSPs are considering the introduction of public, multi-tenant communication applications delivered as a hosted or cloud service. Still others are interested in the benefits of hybrid communication clouds that combine on-premises, private and/or public cloud communication applications and resources.

Learn More

The Avaya Collaborative Cloud portfolio is designed to help enterprises and cloud service providers evolve, augment, federate and simplify their cloud communication solutions. For more information on the Avaya Collaborative Cloud, contact your Avaya Account Manager or Avaya Authorized partner. Or visit **www.avaya.com/cloud**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
04/13 •UC7257

AVAYA
The Power of We™

The Business Value of Enterprise SIP - A CIO View

Table of Contents

Background.....1
What is SIP?.....1
Why SIP?.....1
1. Presence.....2
2. "User Centricity" vs. "Device Bound".....3
3. SIP Trunking and Delivering a Simplified Architecture.....4
4. Innovative Communications.....6
5. Ease of Support.....7
Conclusion.....8

Background

CIO's are constantly looking for ways to reduce cost, optimize business capability and improve customer service. Unified Communication (UC) solutions are integrated technologies that are capable of delivering these benefits, and Session Initiation Protocol (SIP) is a foundational component for realizing these benefits.

The deployment of SIP-based UC allows a CIO to address a key goal to improve communications and collaboration in the enterprise while simultaneously being cost conscious. This is a goal of many IT organizations, including my group at Avaya.

What is SIP?

SIP is an open signaling protocol for establishing any real-time communication session developed in the Internet Engineering Task Force (IETF) by common participation from a number of vendors, including Avaya. The communication session can involve a combination of voice, video, and instant messaging and take place on any device that people use for communicating: laptop computer, Smartphone, cell phone, IM client, IP phone, and so on.

Why SIP?

Many people ask "why SIP?" From a CIO's view, the answer must begin with the benefits SIP brings to the business, which is not solely limited to the technological advantages. SIP brings a number of business advantages to an enterprise both in reducing costs and enabling exciting new communications capabilities.

These business benefits include:

1. **Communication Network Simplificatio**n – through consolidation of platforms with optimized dial plan and call routing
2. **Centralized Management** – reducing administration burden and cost
3. **Business Agility** – faster deployment of new/upgraded communication applications to a larger user community
4. **Better Customer Service** – through improved access to people and data
5. **True Unified Communications** (UC) – making video communications as simple as placing a phone call, and allowing calls or conferences to be easily promoted from one mode of communications to another (IM to voice; voice to video), enabling the easy opening of "sidebar" conversations

Authored by
Stephen J. Gold
Avaya Senior Vice President
& Chief Information Officer

All of these capabilities can be deployed using a "self-funding model" that helps ensure that the payback from the SIP investment is achieved within a short timeframe.

The Avaya SIP UC solution is delivered on Avaya Aura® Session Manager, which optimizes and centralizes control of communication sessions. This in turn is implemented in conjunction with session border controllers for security between internal and external communications, and with SIP Trunking. This is the foundation of a modern UC deployment for supporting the following important capabilities:

1. Presence

Presence, the ability to locate and determine the willingness and ability of people to communicate, is a key component that SIP brings to the enterprise. While most commonly used with instant messaging, presence can be applied to a much wider range of communications and collaboration use cases. The ability to know whether an individual is available to communicate and which method to choose is especially useful with distributed teams, since it eliminates the need to know the location of a team member. For example, if a person's presence status indicates he or she is available, one can begin with an IM session and if needed, escalate to a phone call by simply clicking on the contact's name. Further, that call can become a conference call by clicking on additional names and even move to a video conference if the presence indicator shows that both parties are video-enabled. SIP enables the easy transition of one form of media to another during a communication session.

Today, we are just starting to envision other types of use cases. For instance, when the customer's presence is accounted for during customer service interactions and a "callback" action is needed, the system could determine when the customer is free and ready to interact and the best method to use to reach him or her based on the customer's preferences and history. Thus, SIP plus presence amplifies the power for proactive communication business solutions as well.

Presence is a valuable feature. However some believe it to be complicated, difficult to implement and secure across the enterprise network and too dependent on vendor-to-vendor data transfer. In addition, since it is unlikely that an enterprise can rely on a single presence technology, it is critical that a CIO be able to unify the presence services from disparate vendors. This is especially true when enterprises wish to use presence-based applications to communicate with partners, customers and suppliers.

SIP and other open, industry standards[1] enable Avaya Aura® Presence Services to collect, aggregate, and publish presence from and to multiple sources and clients, including those from the Avaya portfolio and other vendors' IM and presence environments. For example, interoperability is supported between Microsoft Office Communications System (OCS) and Avaya Aura Presence Services at the server/source level, thereby tying in desktop clients using Microsoft OCS.

2. "User Centricity" vs. "Device Bound"

For Avaya, "user centricity" is simply the ability to consistently use features and functions across multiple devices and networks. As a result, users avoid a key "guessing game" when they want to communicate with an individual. Most of us now have many communications devices from which to choose – the office phone, home phone, Smartphone, personal computer, tablet/iPad, etc. In addition to voice, and more recently video communications, many of these devices have the ability to text message, send/receive email and support the growing number of Social Networking applications.

In this increasingly complex environment, SIP becomes the common denominator for connection and feature consistency across all endpoints. With SIP as the binding technology on the backend, users have the same features on their mobile devices as they have on the desktop to signal their presence, and ability to send and receive messages. It gives users that added flexibility to be where they need to be while still in contact with those who need it. Perhaps most importantly for the enterprise, it does so with additional security that cannot be provided by the more traditional protocol like H.323. With SIP as the underlying transport mechanism, it is easier to integrate with other platforms and applications that follow the SIP RFC.

3. SIP Trunking and Delivering a Simplified Architecture

SIP Trunking provides a CIO with the opportunity to realize hard dollar savings within a short payback period. SIP Trunking is defined as the extension of an internal SIP communication network via a carrier network. Many large carriers such as AT&T, Verizon and BT offer capabilities which, when connected to an Avaya Aura SIP enterprise network, greatly expand the financial benefit of SIP. The potential cost benefit here is in the centralization of trunks and the subsequent elimination of existing trunks at every major location. In addition, these centralized trunks can be located in countries with the most favorable telecommunications rates (depending on country regulations).

According to Gartner, the cost savings of SIP Trunking can be very compelling:

SIP trunks can cost at least 28% less than Primary Rate Interface (PRI) trunks with comparable throughput. The aggregation of SIP trunks in the enterprise yields further cost improvements due to centralized trunking and applications, as well as economies of scale.

Gartner June 2010

The benefits of SIP Trunking depend on the organization, their existing carrier agreements, the number and location of users and their specific call usage patterns. Each enterprise needs to review its own unique situation to determine its specific cost savings profile, but, when implemented well, SIP Trunking represents a significant financial opportunity.

The use of a SIP trunk connection strategy may also simplify administration for the organization since SIP trunks typically use the same Internet connection profiles used for data. This eliminates installation and maintenance of BRI/PRI connections at each location. Certainly, there are a number of other factors to be considered in implementing SIP Trunking but, the trend in this direction is clear. Carriers are also continuing to expand and simplify their offerings even as they expand their capabilities globally.

Using SIP, the architecture of the network shown below can be significantly simplified. In this case, an existing, large scale global network has numerous PRI's distributed among sites for PSTN connectivity.

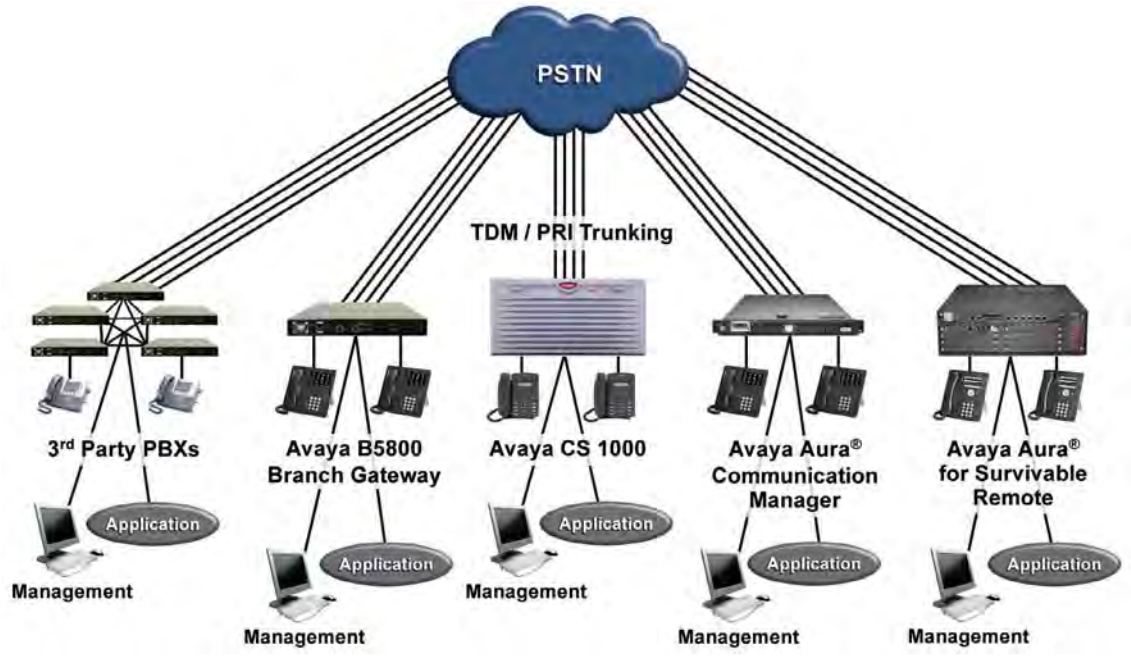


Figure 1 - Current Architecture (logical view)

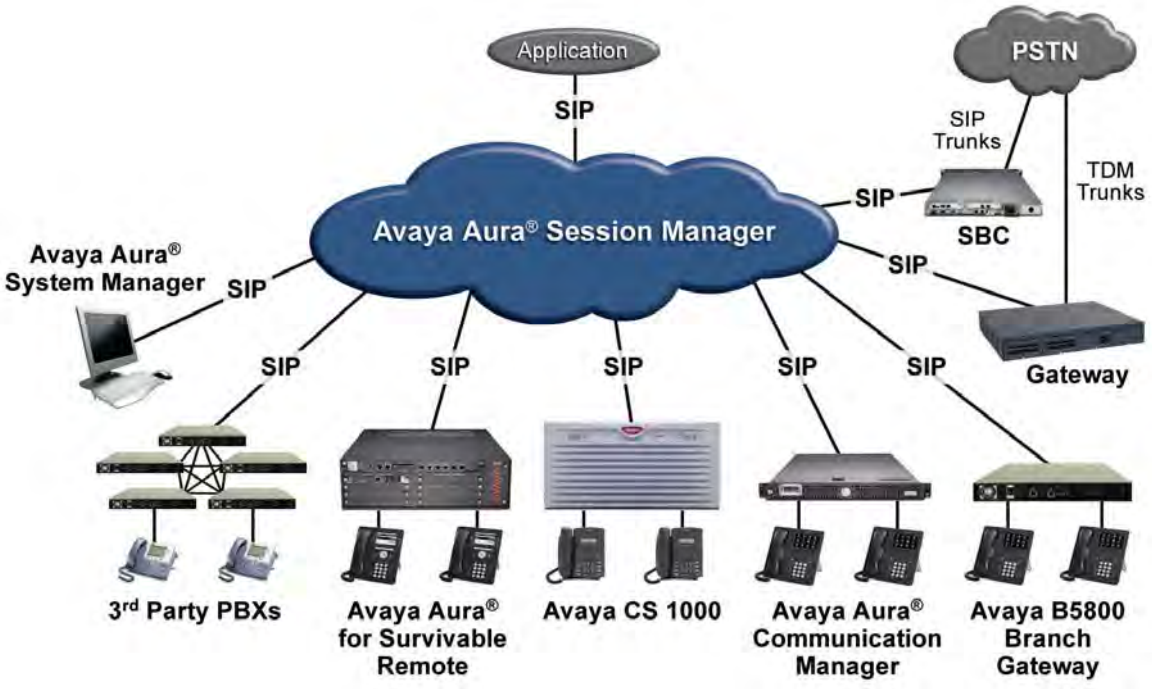


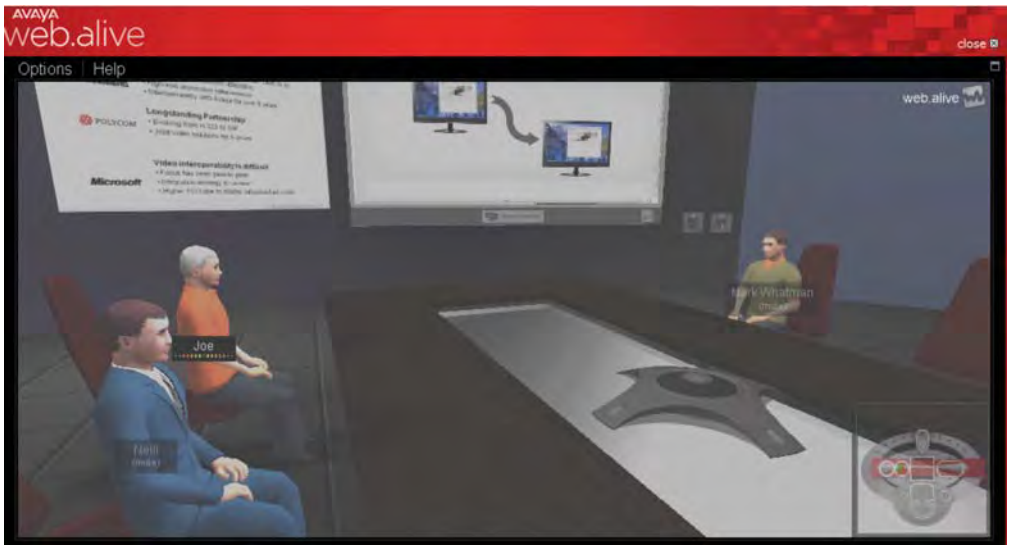
Figure 2 - Future Architecture (logical view)

4. Innovative Communications

SIP enables a number of exciting new end-user features and functions. Some are based on capabilities such as session/caller ID and the ability to encompass other media types such as video. A whole host of possibilities are available to the users using both existing and next-generation endpoints.

The Avaya Flare® Experience running on an Avaya Desktop Video Device is an example of a SIP endpoint that combines, voice, video, IM, email & social networking into a single communications environment for the user.

Avaya web.alive™ — the virtual avatar-based web conferencing application — also uses SIP to simplify the communications connectivity between users thereby allowing extremely large-scale meetings. Avaya web.alive is a great example of creating an innovative communication solution on an open standard SIP platform combining users and communication channels in a very unique way.



5. Ease of Support

SIP enables:

a) **Dial plan simplification**. With Avaya Aura® Session Manager(s) controlling media channels, dial plans can be coordinated in a central location rather than at each local site. This reduces the overhead of managing the dial plan and reduces the headcount requirement at disperse locations.

b) **Direct dialing to all extensions** with no need to limit telephone numbers to a full 10 digits. Direct Inward Dialing numbers can also be assigned for every extension – minimizing the need for attendant (auto or manual) support.

c) **Number portability**. If, for example, a branch office is closing or moving, it is possible to retain important direct dial numbers even if the physical location of the extension changes (e.g. using AT&T's FlexReach Service in the U.S.). With this approach the same local telephone number would remain available to users, avoiding any confusion or disruption for callers.

d) **Easier integration of applications and services** allowing centralized communication applications that can be provided to the entire user community or to a specific subset of users regardless of their location. It no longer requires updates to every PBX in the enterprise, which helps to decrease operational costs and improves reach for those services.

Conclusion

From a CIO's perspective, SIP is a key enabler for a long term UC strategy. The implementation of SIP simplifies communications, removes proprietary protocols and expands communication product features and functionality beyond the boundaries of the enterprise. Proprietary solutions can box in the enterprise – especially in communications. Communications solutions are a strategic investment that must stand the test of time, yet provide the flexibility to accommodate ongoing changes in business requirements. Because SIP is an open standard protocol, many vendors develop applications and interoperate using SIP, which makes it the smart choice for today's CIO to purchase SIP based platforms.

While providing advanced communication capabilities and simplifying the communication architecture, SIP most importantly can provide hard cost savings in terms of toll and trunk/access reductions and potentially reduce support costs by eliminating complex dial plan support across large enterprises. SIP also reduces the

need for local communication expertise by centralizing overall control and delivering a communication solution which is far easier to manage with a potentially smaller team. Each enterprise should perform the analysis to understand its potential SIP savings opportunity.

With SIP, the game changes for IT. New communication services based on SIP can be delivered simply with software deployed from the enterprise data center. This decreases operational cost and improves the availability of those services for the entire enterprise; no longer does deployment depend on function or location.

While the UC community and its users continue to explore the competitive advantages of SIP, we have seen that it advances business communications – bringing the enterprise, its people and its customer closer together.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, data solutions and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**.

© 2011 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. and are registered in the United States and other countries. All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. Avaya may also have trademark rights in other terms used herein. References to Avaya include the Nortel Enterprise business, which was acquired as of December 18, 2009.
08/11 • UC4787

Unified Communications & Collaboration Potential: Goals, Obstacles & Savings

Webtorials Thought Leadership Report

UCC and SIP Drive Savings in Cost-Conscious Enterprises

September 2011

Sponsored by: Avaya, Inc.

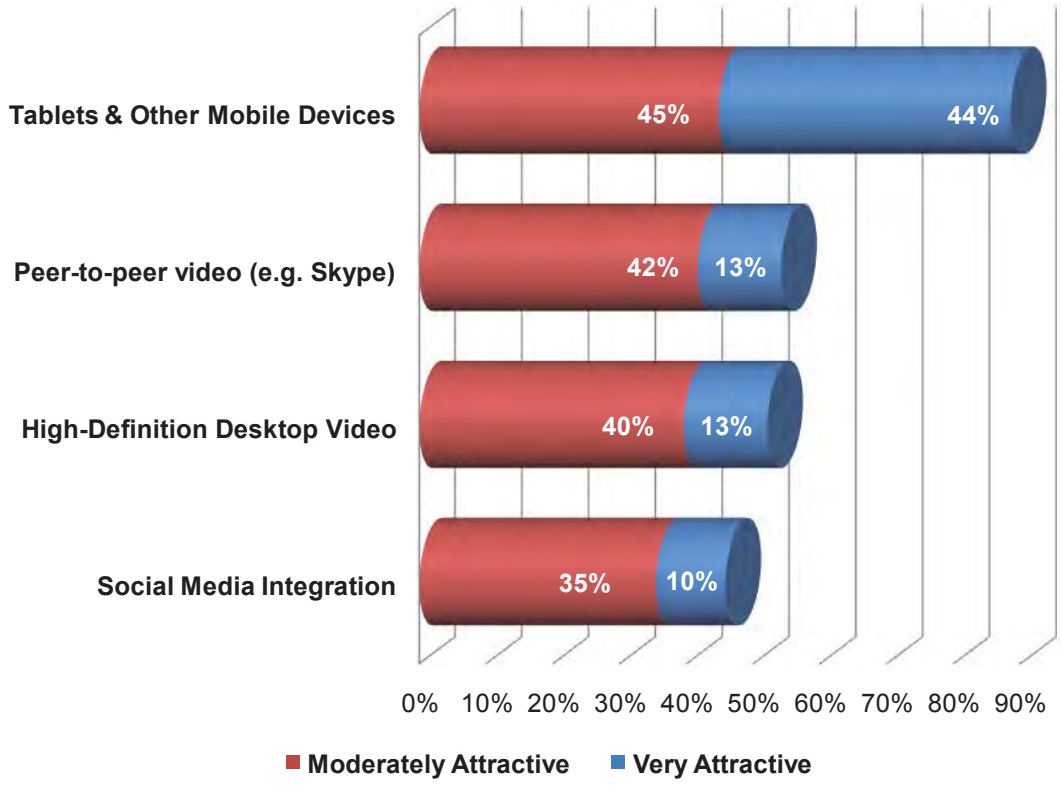
Enterprise UCC At-A-Glance

In May 2011, Webtorials surveyed 136 IT managers in its subscriber base about their experiences, plans and objectives with unified communications and collaboration (UCC) applications and technology. Many of their answers indicated that the respondent base associates certain aspects of UCC closely with what they cited as their primary overall business goal: reducing costs in the enterprise.

UCC software and services provide a consistent user experience across multiple IP communications applications, devices and media types using a common interface. The apps support several productivity-enhancing capabilities; for example, users can read voicemail messages by retrieving them using email and vice versa. They can also share documents with colleagues online during conference calls. And they can click to initiate dynamic audio, chat and video sessions from a range of client device types based on their colleagues' locations and availability. These are just a few applications of UCC.

Most UCC services now have been expanded to run on mobile device platforms, given that smart phones and wireless tablets have quickly begun to outpace traditional wired phones, desktop computers and notebook computers. In fact, 89% of respondents identified tablets and other mobile devices as "very attractive" or "moderately attractive" as part of their UCC deployments going forward (see Figure 1). At the other end of the spectrum, integration with social media was least attractive.

Figure 1: Mobile Devices Join UCC Environment



Please identify the attractiveness of these devices and applications as part of your enterprise's UC&C solution going forward.

The insight gleaned from this research is based on responses from IT professionals who hold IT management, operations and supervisory positions at their companies and are either involved in purchasing IT products and services or influence such purchases. Two-thirds are in companies of 1,000 employees or more.

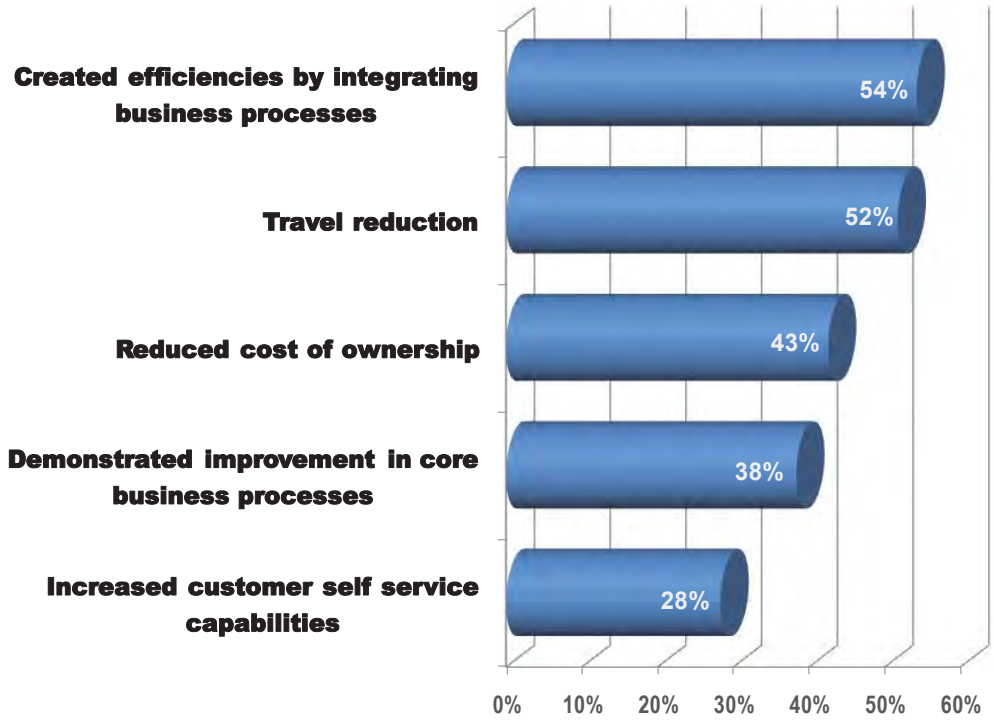
Key Findings

An economics theme prevailed throughout the survey findings. For example:

- ***IT's overriding business goal – even apart from UCC plans – is to reduce costs in the enterprise,*** according to 60% of respondents. Coming in a somewhat distant second at 41% is the desire to improve workforce productivity.

- ***Not surprisingly, the top three business outcomes hoped for through the use of UCC also relate directly to cost*** (***see*** Figure 2). They are, in descending order, creating efficiencies by integrating business processes, travel reduction and reduced total cost of ownership (TCO).

Figure 2: Critical UCC Business Benefits Rankings



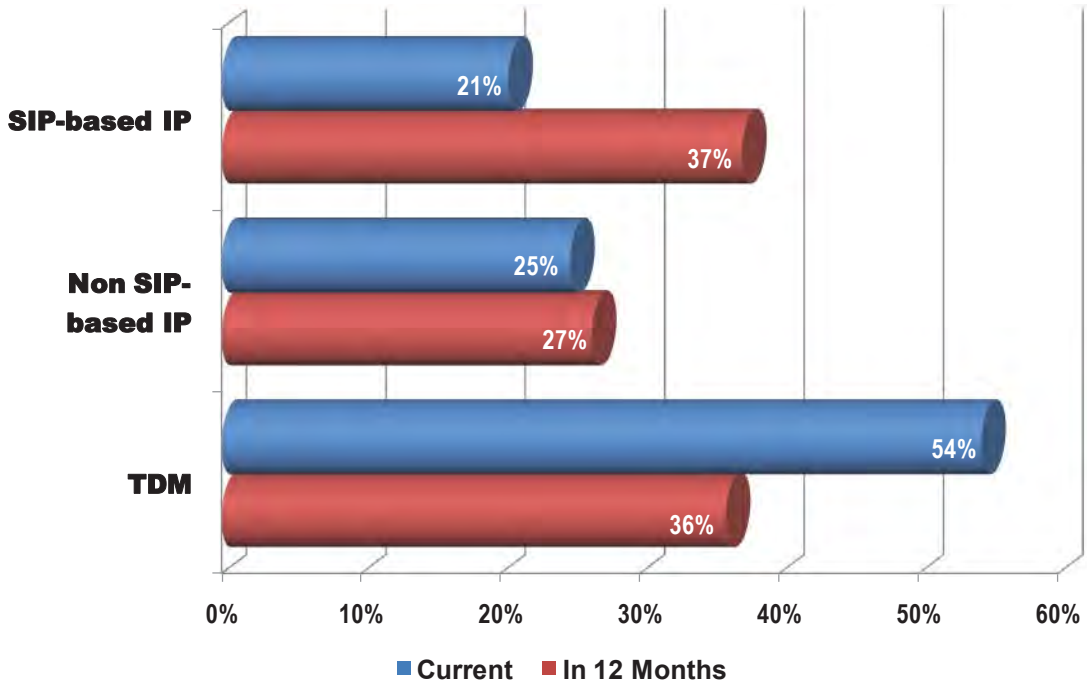
Which business outcomes provided by UCC play an extremely important role in your enterprise's assessment of a successful UCC solution?

- ***Respondents indicated a strong interest in replacing traditional telephony signaling (TDM) with Session Initiation Protocol (SIP)-based connections for cost savings and other reasons.*** Enterprise acceptance of SIP-based transport bodes extremely well for greater adoption of UCC solutions. Let's take a closer look at SIP.

SIP Migration Drivers

IT managers indicated plans for substantial migration toward SIP-based infrastructures during the next 12 months. The percentage with SIP-based IP installed now (21%) is expected to jump 16 points to 37% during the one-year time period, while TDM deployments will plummet from 54% to 36% (see Figure 3).

Figure 3: TDM & SIP Allocation Plans



How do you see your resources for UCC architecture being allocated now and 12 months from now?

SIP acceptance is a strong driver for collaboration and its benefits. According to our survey, those users leading in SIP adoption give a great deal of thought to TCO when considering a UCC solution, indicating that they associate cost efficiencies with SIP.

Why is SIP so important? SIP is a worldwide signaling standard created and supported by the Internet Engineering Task Force (RFC 3261). As such, it is the interoperability catalyst that enables widespread and advanced UCC applications. While some UCC applications have been available for several years, most have been vendor-specific and voice-oriented.

SIP, however, represents a major step forward as a standard and – as its name implies – is *session-oriented*. SIP sessions are not limited to voice; they can be any type of session, including videoconferences and collaborative sessions. And SIP can serve as

the "glue" among all these application types and ease integration and interoperability while reducing complexity.

For example, most respondents said they found it easy to collaborate with others using voice (85%), while less than half as many (about 40%) thought Web conferencing, desktop sharing and videoconferencing were easy. SIP has the potential to alleviate those difficulties as a common signaling protocol for all types of communications.

The industry's standardization around SIP is valuable in several usage scenarios, including the following:

- Intra-company communications with disparate equipment from the same manufacturer
- Intra-company communications with equipment from different manufacturers
- Inter-company communications using equipment from any variety of manufacturers
- Interconnection with a service provider (e.g., a phone company) using a packetized interface for any type of communications, as opposed to relying on TDM telephony trunks

As noted, survey respondents are intensely interested in containing costs. Consequently, the implementation of SIP must have a strong business case behind it. And like all business cases, SIP's must contain both tactical and strategic benefits.

Potential UCC Savings

SIP standards enable greater uptake in UCC, which has the potential for significant cost savings. There are many UCC savings calculators available from various industry sources for estimating cost savings to build the tactical business case. The savings calculator available from Avaya[1], the sponsor of this report, for example, provides some particularly interesting insights.

One version of the Avaya Product Calculator Toolkit is optimized for companies with up to 1,000 employees. In this case, users provide information about their companies' number of employees, number of sites, the percentage of employees who will use basic UCC and the percentage who will use advanced collaboration such as video.

In most scenarios, the majority of the cost savings come from two sources: 1) network optimization paired with a shift to SIP trunking; and 2) travel savings from video. In a sample company with about 1,000 employees, the network savings range from about $240,000 to $270,000, depending on how many branches the company has, regardless of whether the branches are domestic or international.

[1] *Source: Avaya Product Calculator Toolkit*

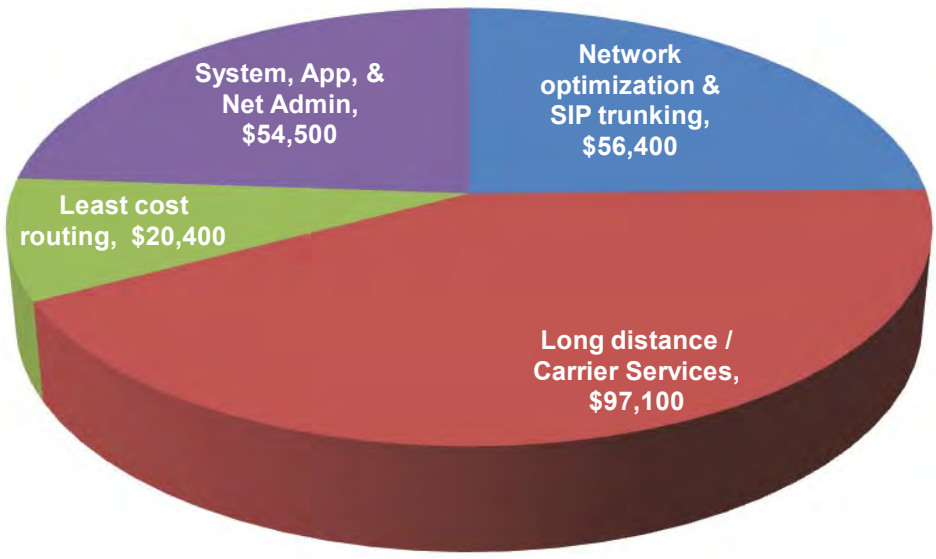
The savings from travel can be tremendous, but they are also highly dependent on the individual company. For instance, according to Avaya's model, this 1,000-person company could save about $500,000 to $1,000,000 per year (depending on the number of travelers and the frequency of travel) with rather modest shifts to video.

Note that these fairly significant savings represent tactical cost containment only derived from reduced travel costs. They do not include the additional increased productivity potential of video used either as a standalone UCC application or in the context of other UCC applications, so the savings could possibly be much larger.

When the number of enterprise employees is greater than 1,000, a different set of assumptions kicks in using the Avaya tool. The questions shift to a focus on the region(s) in which the company is located, the degree to which the company is centralized or distributed and the vertical market.

As shown in the example in Figure 4, the hard tactical savings in larger companies derive from several sources. In this case, it is assumed that the company is a centralized global company with 2,500 employees and six sites. (No specific vertical market is assumed in this example.) The key takeaway is that a number of areas contribute to an overall savings of about $228,400 per year. Note that these savings do not include any travel savings realized by using video (a significant impact) or any soft strategic savings. Perhaps most remarkably, 24% can be saved in reduced system, application and network administration costs.

Figure 4: Sample Savings



UCC can deliver a total estimated $228,400 savings in a global enterprise with 2,500 employees, six branches and a primarily centralized architecture. The savings come from reduced costs in the four operational areas shown.
(Source: Avaya Product Calculator Toolkit)

Mileage will vary, of course, depending on enterprise specifics, but regardless of the exact numbers, the underlying message is clear: ***UCC and by association, SIP, provide a path for tremendous cost savings and productivity increases.***

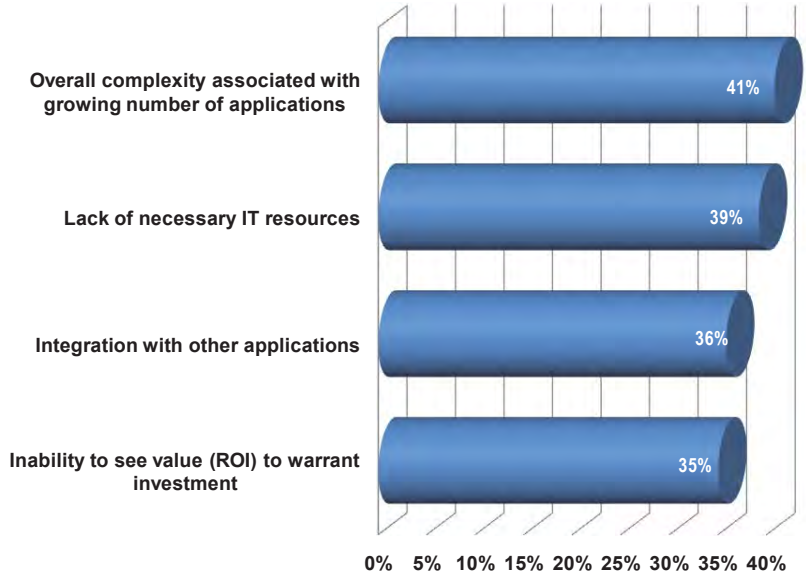
Other Notable Findings

UCC is a highly valued area, but there is plenty of work to do to get it into the shape that enterprises will ultimately consider "mature." The following examples reflect the work-still-in-progress state of UCC:

- ***The most important collaboration tools lack ease of use.***
  Respondents cited collaborative tools, such as SharePoint and WebEx, as the most important components of UCC (58%). However, they admitted that such applications were not necessarily easy to use: desktop sharing was cited by just 17% as very easy to use, and even fewer, 13%, said Web conferencing was very easy to use. In fact, 30% found Web conferencing to be moderately or very difficult to deploy, and 38% found desktop sharing moderately or very difficult to deploy.

- ***Complexity barriers to deployment remain.***
  While efficiencies drive UCC deployment, complexities are the primary deployment barrier (see Figure 5). At the top of the list of concerns is the overall complexity associated with a growing number of applications, lack of necessary IT resources to handle them and integration with other applications. Moves to IP-based SIP are likely to alleviate at least some of these issues.

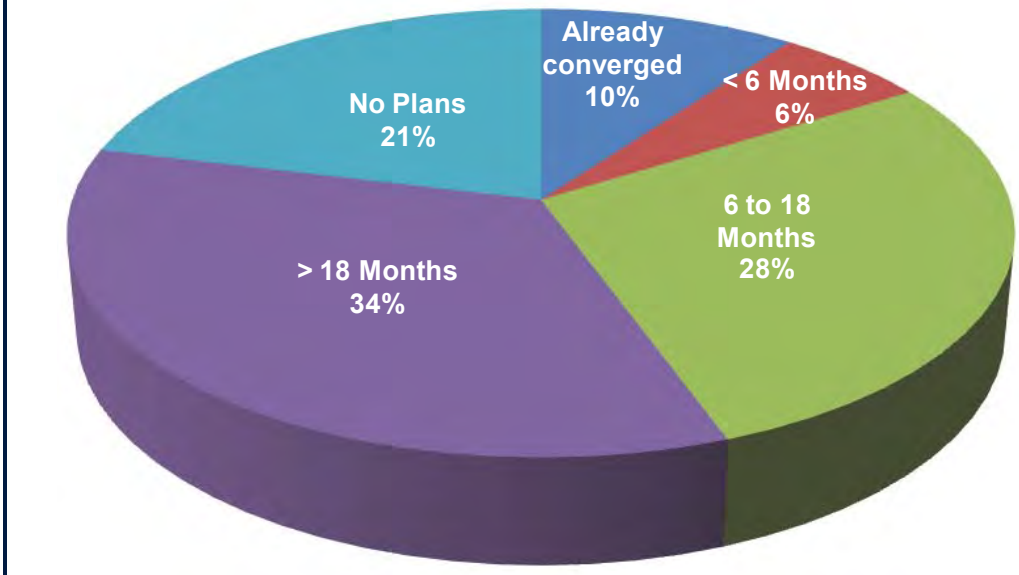
Figure 5: What's Getting in the Way of UCC Deployments?



What are the most significant barriers to broader UCC deployment?

- ***Videoconferencing is still a challenge***.
Videoconferencing apparently remains difficult to deploy, and it has been the least adopted component of UCC. Desktop videoconferencing fell at the bottom of respondent priority lists, showing up on just under one fourth (24%) of respondents' rankings of their most critical collaborative work tools. And though respondents found videoconferencing much more difficult to deploy than voice, nearly half the respondents (44%) do envision converging their video networks with their UCC platforms within 18 months (see Figure 6).

Figure 6: Video, UCC Nets to Merge



When do you envision converging your video network and infrastructure with the UCC network and platform in your enterprise?

Summary

Slashing enterprise costs is top of mind for the IT managers surveyed for this report. Many consider aspects of UCC to contribute to that goal, either indirectly via enhanced communications and information sharing or directly by the elimination of hard costs associated with new SIP solutions.

Enterprises rank integration with mobile devices as a high priority while relegating social networking integration and videoconferencing applications as secondary at this point. The biggest barriers to pulling it all together are difficulty with using certain collaborative applications and the complexities associated with deploying and managing them in an integrated manner. These issues are front and center as the number of UCC applications continues to swell and the status of application interoperability is hit or miss.

About the Sponsor – Avaya

Avaya is a global leader in business communications systems. The company provides unified communications, contact centers and related services directly and through its channel partners to leading businesses and organizations around the world. Enterprises of all sizes depend on Avaya for state-of-the-art communications that improve efficiency, collaboration, customer service and competitiveness. For more information please visit www.avaya.com.

About the Webtorials® Editorial/Analyst Division

The Webtorials® Editorial/Analyst Division, a joint venture of industry veterans Steven Taylor and Jim Metzler, is devoted to performing in-depth analysis and research in focused areas such as Metro Ethernet and MPLS, as well as in areas that cross the traditional functional boundaries of IT, such as Unified Communications and Application Delivery. The Editorial/Analyst Division's focus is on providing actionable insight through custom research with a forward-looking viewpoint. Through reports that examine industry dynamics from both a demand and a supply perspective, the firm educates the marketplace both on emerging trends and the role that IT products, services and processes play in responding to those trends.

For more information and for additional Webtorials® Editorial/Analyst Division products, please contact Jim Metzler at jim@webtorials.com or Steven Taylor at taylor@webtorials.com.

This report was prepared by Steven Taylor, Webtorials Co-Founder; Leslie Barteaux, Webtorials Senior Analyst/Editor; and Joanie Wexler, Independent Analyst and Webtorials Chief Content Officer.

Published by Webtorials Editorial/Analyst Division
www.webtorials.com

Division Cofounders:
Jim Metzler
jim@webtorials.com
Steven Taylor
taylor@webtorials.com

Professional Opinions Disclaimer
All information presented and opinions expressed in this publication represent the current opinions of the author(s) based on professional judgment and best available information at the time of the presentation. Consequently, the information is subject to change, and no liability for advice presented is assumed. Ultimate responsibility for choice of appropriate solutions remains with the reader.

Copyright © 2011, Webtorials
For editorial and sponsorship information, contact Jim Metzler or Steven Taylor. The Webtorials Editorial/Analyst Division is an analyst and consulting joint venture of Steven Taylor and Jim Metzler.

AVAYA
The Power of We™

sochi.ru 2014 OFFICIAL SUPPLIER

Sochi 2014 Olympic Winter Games

Avaya has been named by the Sochi 2014 Organising Committee as the Official Supplier of Network Equipment for the Sochi 2014 Winter Games.

Challenges

- Design and provide a secure, robust, simplified network
- Ensure the network can cope with pervasive video, massive scale and huge peaks in traffic volumes
- Enable secure BYOD for athletes, media, Olympic family, and IOC members

Value Created

- Simplified fabric-enabled network; for easier deployment, management and troubleshooting
- Ability to turn up new services and adjust services on the fly with fewer IT resources
- Delivering a truly connected Games experience through anytime, anywhere access to content from any device without compromising security
- Ability to build on previous experience at the Olympic Games

As the Official Supplier of Network Equipment to the Sochi 2014 Winter Games, Avaya is providing network, collaboration and communications equipment. Avaya' s network will provide a full communications experience to athletes, dignitaries, sponsors and fans worldwide; raising the benchmark set by previous Games by delivering the first "Fabric Enabled" network that will enable anytime, anywhere access to content from any device.

Organisers expect more than 75,000 visitors each day to the Olympic Park and more than three billion television audiences around the globe.

The Sochi 2014 Winter Game events will take place in two 'clusters': mountain cluster and coastal cluster. A host of new venues are being built to support the Games : 'Bolshoy' Ice Dome, 'Fisht' Olympic Stadium, 'Ice Cube' Curling Center, Sliding Center 'Sanki', 'Laura' Cross-country Ski and Biathlon complex and many others.

In addition, specially created 'Live Sites' are being built in cities across Russia, transmitting live feeds of events as they unfold to Olympic fans.

Massive data demands require expertise

The organisers expect the use of video streaming on mobile and tablet to make a breakthrough at Sochi 2014. IPTV, tablets and smartphones will place unprecedented demands on the network.

Critical to the success of the Games will be a secure, robust network. It will need to be capable of carrying vast amounts

of data while identifying (and granting access to) a huge range of different user groups.

The network will need to provide seamless connectivity across all venues. It must provision additional capacity quickly and simply, handling huge peaks in data traffic as audience figures spike with the flagship events.

Media, athletes and coaches will be able to tap into 30 IPTV channels across the Avaya network infrastructure. This means a sports journalist watching the figure skating live in the Bolshoy dome can also watch the downhill skiing on HD TV. Press photographers will have instant upload access to thousands of photos from wireless enabled cameras, from the moment an athlete crosses the finish line.

Trusted partnerships

With the eyes of the world watching, and no room to manoeuvre on deadlines, the Sochi Organising Committee held a tender, seeking a partner with previous experience of Winter Games. In addition, it wanted a vendor that could deliver a communications network to deliver increased efficiency, resiliency and sustainability.

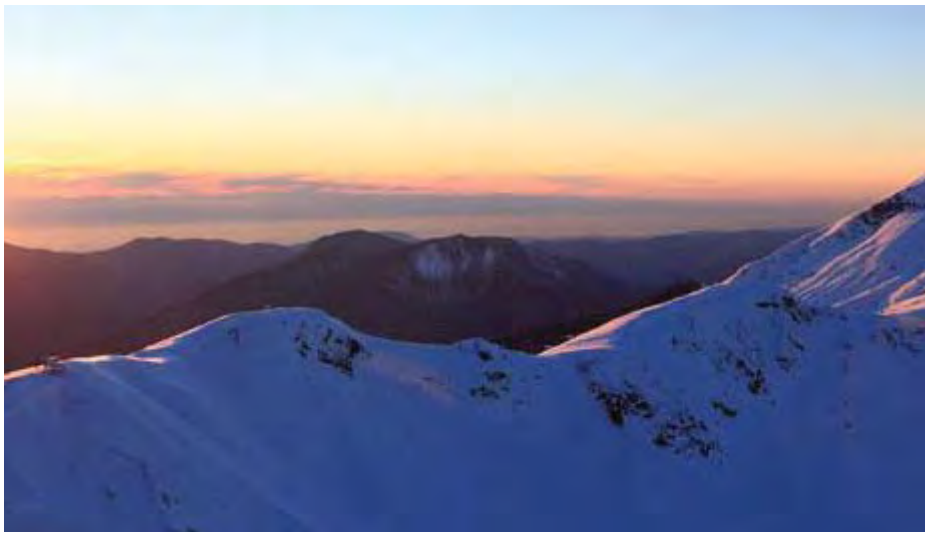
Avaya has a long history of partnering with the Olympic Games movement, and has helped evolve and innovate the hosting, operations and fan experience for many years. In 2010 it built the model for the first all IP converged voice, data and video network solution, which is the standard at the Games today.

As the Olympics have evolved, Sochi will be much leaner than previous Games. There is a greater reliance on partner organisations, and a need for a network that is simple to deploy and operate. With Sochi a largely Greenfield site, much of the technology will start from scratch, rather than being overlaid on existing infrastructure.

The solution must strike a balance between using the latest technology and allowing adequate time for testing. The design for the network was finalised in 2010, well ahead of the Games, with testing events already well underway. Every venue will host at least one world championship event prior to the Games. Ninety days before the start of the Games there will be the first of two complete technical dress rehearsals, with faults induced and business continuity plans fully stress tested.

A virtualised solution

The Sochi 2014 Winter Games are unique in that this will be the first Games where network access will be largely wireless rather than wired. The vast majority of the networks users arrive just as the Games are beginning and are effectively “guests” for 18 days.



With no ability to train users or to control what devices they bring, results in it being the largest guest network of its kind, and a true Bring Your Own Device (BYOD) environment. Guests will expect world class connectivity to match a world class event. Accordingly, Avaya and OCOG are supplying a comprehensive solution delivering game changing products to meet these key demands.

The Avaya solution uses Avaya Virtual Enterprise Network Architecture at its core. Running off the Avaya Virtual Services Platform 9000 an advanced hardware platform that delivers the highest levels of performance, scalability, and reliability, Sochi 2014 have a solid base to build out the rest of the network.

Additionally, Sochi 2014 will be the first ‘Fabric Enabled’ Games and will leverage Avaya’s leading Fabric Connect technology in order to simplify the design, deployment and management of the end to end network. Avaya VENA Fabric Connect, based on Shortest Path Bridging (SPB) — a protocol based on IEEE and IETF standards that Avaya is pioneering within its Virtual Enterprise Network Architecture — simplifies network complexity by eliminating the need to configure multiple points throughout the network. The simple end-point provisioning is done where the application meets the network, while all points in between are automatically provisioned through a robust link state protocol. The ability to transparently extend Layer 2 and/or Layer 3 domains across a virtual backbone with virtually

no effort and no risk enables the Sochi Organising Committee to be able to switch on new services or adjust network capacity during spikes in network demand, say, the Men's Ice Hockey final or downhill skiing gold medal run.

Avaya VENA Fabric Connect provides a single robust protocol for all network services, eliminating the complexity associated with traditional network designs which are based on interactions between multiple Layer 2 and Layer 3 protocols. With support for integrated and scalable multicast, High Definition IPTV video will be distributed to each of the broadcasters and to locations in and around Sochi over the fabric enabled backbone with much greater simplicity than in the past. This streamlined network environment helps the Sochi organising committee increase IT efficiency.

Additionally, within the virtualised network environment, different network zones can easily be created. There will be a secure zones for voice communications, Enterprise or Admin applications, and IPTV, as well as for the highly critical Games network which provides instantaneous event results and tracking for all of the Games competitions.

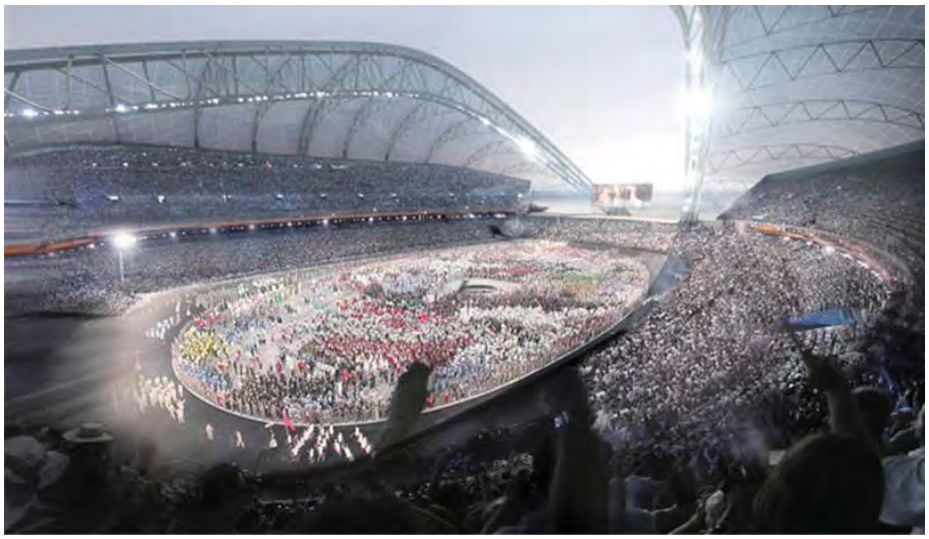
Avaya Aura® will be deployed for reliable communications. Avaya Aura® provides a common architecture and common management for all kinds of communications — including voice, and video, to enable anytime, anywhere collaboration ensuring that athletes can stay in close connect with their coaches and their families during such a pivotal time in their careers.

With the advent of BYOD the organising committee realised that to guarantee quality of service it is necessary to assign certain devices and certain users to specific service classes. This will protect bandwidth and prevent security breaches. The Avaya Identity Engines will be used to assign network access rights and permissions based on a user's credentials and role (media, athlete, IOC official), where they connect from (Olympic village, competition venues, etc.), and how they connect (e.g. wireless, wired).

Credentials can range from certificates pre-installed in Organising Committee's devices to IOC smartphones to Captive Portal log ons for press and broadcasters. Users will then be placed securely into the proper virtualised network with the predetermined level of service.

To aid connectivity there will be extensive indoor and outdoor WiFi throughout both the Mountain and Coastal clusters. This will be enabled by the introduction of the Wireless LAN 8100 Series a highly scalable, real-time optimised and secure wireless networking solution incorporating the latest 802.11n wireless standard. The WLAN 8100 Series features a unique unified wired/wireless architecture, which will enable Sochi 2014 to achieve high productivity and operational efficiency.

With communications being a critical component of Sochi 2014 Winter Games, the Avaya solution will play a crucial role in ensuring the success of the event. It enables the media, athletes, officials, Olympic and Paralympic family, workforce and volunteers to communicate from anywhere at any time on any device.



Learn More

For more information, contact your Avaya Account Manager or a member of the Avaya Connect channel partner program, or access other collaterals by visiting **www.avaya.com** and **www.avaya.ru/sochi2014**

Solutions:

Avaya Aura®

Avaya Virtual Enterprise Network Architecture

Avaya VENA Fabric Connect capability

Avaya Virtual Services Platform 9000

Ethernet Routing Switch 5000

Ethernet Routing Switch 4000

Avaya Wireless LAN 8100 Series

Avaya Identity Engines

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com**

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or SM are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
DN7191

Franciscan ALLIANCE | AVAYA The Power of We™

Franciscan Alliance & Fabric Connect: Redefining the Delivery of Healthcare Services

Avaya VENA Fabric Connect brings bandwidth, resiliency to support growing application roadmap

Challenges

- Upgrade the network to support the company's expanding application load
- Build in resiliency to keep business-critical applications always on line
- Remove network maintenance and complexity so the IS can focus on deploying new applications and services

Value Created

- Migration with zero downtime
- Saving headcount with reduced 'care and feeding' of the network
- Refocused resources on advancing the organization toward its goals, rather than on network troubleshooting
- The bandwidth to support a disaster recovery site and technologies that will support a lower-cost care delivery model

For healthcare organizations today, the challenges of doing more with less have never been greater – and the burden largely falls on IS teams.

"*What we're facing as an industry and an organization we've never seen before,*" said Glenn Berryman, Director Infrastructure & Operations, Franciscan Alliance Information Services, one of the largest faith-based health systems in the Midwest. *"It's really an evolution of healthcare centered on the triple aim of improving the quality of care, involving patients and families more, and reducing the cost of providing care."*

Franciscan Alliance operates 13 hospitals and more than 170 medical practices across Indiana, Illinois and Michigan. More and more, the organization is relying on technology to simultaneously enhance care services and reduce the cost of provisioning. The network supports 34,000 users and business-critical applications such as electronic medical records, imaging, labs and VoIP communications.

Previously, deploying new applications and innovations to achieve its objectives took an increasing toll on the company's network. Franciscan just didn't have the bandwidth it needed to support an application roadmap and keep essential systems running reliably.

"We're embarking on a journey to increase quality and decrease cost, and our entire infrastructure needs to serve all the challenges that come along with that. This Avaya network provides us the flexibility and reliability to support the needs of our rapidly evolving organization. We can speed delivery of medical images and other important high-bandwidth documents. Plus, implementations occur quickly, which is essential to a hospital's smooth operation. Avaya helped us lay out a vision, and it worked better than expected."

- Glenn Berryman,
Director Infrastructure & Operations,
Franciscan Alliance Information Services

"When we needed to add new features, applications or technologies, it was difficult or impossible to do that with our old network," said Scott Cable, Communications Manager, Franciscan Alliance Information Services.

Boosting Bandwidth, Reliability with Shortest Path Bridging

Franciscan Alliance replaced a resilient ring-based OC-12 topology, with Avaya's Virtual Enterprise Network Architecture (VENA) Fabric Connect, based on an enhanced implementation of the IEEE's Shortest Path Bridging (SPB) technology to boost the reliability, manageability and bandwidth of the network. Fabric Connect and SPB ensures that traffic always takes the path with the least latency and highest bandwidth, optimizing application performance.

Prior to companywide deployment, Franciscan's IS team put the Avaya network to the test. Working with Avaya and their partner, Integration Partners, the team built a small network with several links.

"*In testing the Avaya Fabric Connect, we started unplugging links and never dropped a single connection,*" said Rick Bolt, Network Engineer, Franciscan Alliance Information Services. *"With the multiple links, Fabric Connect was the perfect solution for our design."*

"My advice to individuals who are evaluating fabric technologies is to see Avaya's Fabric in the lab," Bolt added. *"I am a skeptical person, but once you see it you're going to want to implement it."*

Zero-Downtime Deployment

Actual deployment of the Fabric Connect network was just as painless. Integration Partners sat down with the IS team to design a migration plan.

The team rolled the new network out at a rate of about two sites per week across 16 locations, including 13 hospitals, two data centers and administrative offices. Each location now has an OC-48 connection. Crucially, Franciscan Alliance didn't miss a single second of connectivity during the cutovers.

"We were very cautious because we couldn't afford downtime," Bolt said. *"But we completed the migration with zero downtime. It was a non-event. Nobody even noticed. Implementation of the new Fabric Connect network was really easy. In comparison to putting in your WAN for the first time, it was a breeze."*

Cable credits the teamwork among Franciscan Alliance, Integration Partners and Avaya for the seamless cutover. *"The team had members from three organizations, but we truly saw it as one team, all working together to make this a success,"* he said.

Enabling Disaster Recovery

With Fabric Connect, Franciscan Alliance established the stable foundation it needs to support uptime, security and increasing application traffic. For security, the company has the flexibility to cordon the network with zones to segment medical devices, for example.

The move to Fabric Connect gives the company a more stable and resilient network. Previously, in certain circuit failure scenarios, some backup network links risked becoming heavily saturated with traffic, risking an impact on network performance. Fabric Connect eliminates such saturation scenarios, making individual circuit outages largely imperceptible to end users.

"The additional capacity of the network allowed us to build a second data center for disaster recovery, which we wouldn't be able to bring online otherwise," Cable said.

Freeing Up IS Resources

The Fabric Connect network is simpler and easier to change when needed. The technology eliminates the need for redundant, overlapping protocols, reducing network complexity and the amount of time to provision new services.

Care and feeding of the network has changed dramatically for the IS team. Previously, deploying new services and applications at one location brought down all 16. Now, changes don't impact connectivity. And connecting physicians' offices or other sites is simply a matter of adding a node on the WAN.

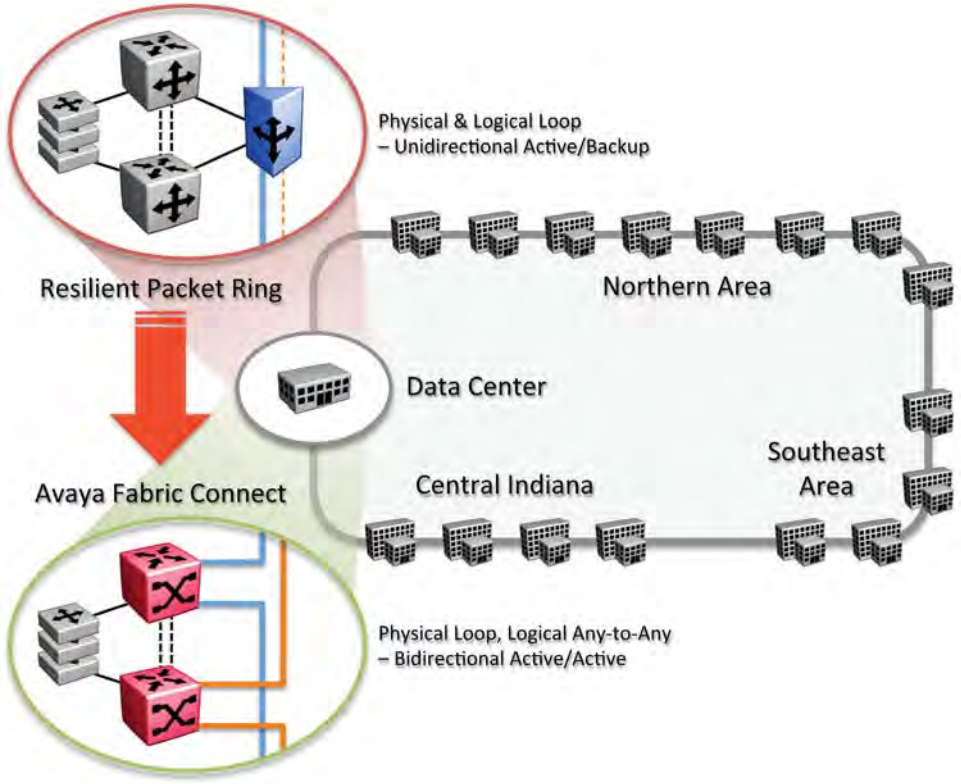
"The stability of the network saves us from a lot of late night calls and frees up resources that were dedicated to just keeping the lights on before," Cable said.

A Framework for Lower-Cost Technologies

The simpler, higher-capacity network helps Franciscan Alliance keep costs down. The IS team spends less time troubleshooting network issues and more time focused on deploying applications that will move the organization forward.

"From an information services standpoint, a lower-maintenance network allows us to support the evolution of our IT without adding as many staffing resources," Berryman said.

The network also reduces hardware and configuration needs, further driving affordability. Moreover, it supports Franciscan Alliance in deploying applications that are more cost efficient, such as telehealth – delivering care virtually via telecommunications.



Greatest Value: Resiliency

Previously, circuit outages caused performance slowdowns that were noticeable to business users. Now, however, fast failover makes circuit failures invisible to end users.

"The resiliency of the Avaya's Fabric Connect is its biggest value. We recently lost an OC-48 at one of my locations due to a Service Provider failure," Bolt said. *"When I got the alert, I traced the route and it was already taking the redundant path. Not a single call was dropped and no one even noticed the outage. The reconvergence of Avaya's solution is lightning fast."*

That reliability gives Franciscan Alliance the confidence to move forward with more ambitious goals, including virtual desktop integration for 12,000 seats, voice consolidation, emerging clinical applications, remote monitoring and bringing physicians' offices onto the network. It also gives the company the flexibility of multi-tenancy as needed.

"My advice to individuals who are evaluating fabric technologies is to see Avaya's Fabric in the lab. I am a skeptical person, but once you see it you're going to want to implement it."

- Rick Bolt, Network Engineer, Franciscan Alliance Information Services

"We're embarking on a journey to increase quality and decrease cost, and our entire infrastructure needs to serve all the challenges that come along with that," Berryman said. *"The Avaya network provides us the flexibility and reliability to support the needs of our rapidly evolving organization. We can speed delivery of medical images and other important high-bandwidth documents. Plus, implementations occur quickly, which is essential to a hospital's smooth operation. Avaya helped us lay out a vision, and it worked better than expected."*

Learn More

For more information, contact your Avaya Account Manager or a member of the Avaya Connect channel partner program, or access other collaterals by clicking on Resource Library at **www.avaya.com**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

ABOUT FRANCISCAN ALLIANCE

For more than 135 years, Franciscan Alliance has stayed true to its founding mission to care for everyone who comes through its doors. A trusted leader in providing faith-based, integrated health care, Franciscan Alliance brings together the latest technology, innovative procedures and the brightest, most compassionate people to serve patients in Indiana, Illinois and Michigan. Throughout 13 hospitals and 170 medical practices, the organization has a number of nationally recognized Centers of Health Care Excellence.

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
05/13 • DN7270

AVAYA
The Power of We™

MACQUARIE UNIVERSITY
SYDNEY ~ AUSTRALIA

Macquarie University improves student services with fast network

Challenges

Deploy a more modern and flexible network that provides students with faster access to university applications from any location on campus.

Value Created

A new network based on Avaya technology that provides students with around-the-clock connectivity to bandwidth-hungry applications.

Avaya network enables students to work more effectively from any location with any device at any time.

Company Profile

Macquarie University is an Australian university located within the Macquarie Park high-technology corridor north west of Sydney. The university comprises four faculties, with about 37,000 students and 2,468 academic and professional staff. It was recently named Australia's highest ranking university less than 50 years of age by QS and Times Higher Education.

Macquarie University's emergence as an international institution despite its short history is partly due to its investment in research excellence.

The success of this strategy has been confirmed by the Australian Government's evaluations, with five research areas rated 'five out of five', indicating performance that is well above world standard.

Since 2010, Macquarie University has invested heavily in facilities and infrastructure, building the most technologically advanced hospital in the country and establishing the Australian School of Advanced Medicine. The university has built a state-of-the-art library featuring the only robotic storage and retrieval system in the southern hemisphere.

"The network is resilient and fast enough to support our students calling their parents from the shade of a tree in the courtyard."

—Peter Hole
Manager, Implementation
Macquarie University

It also created the Australian Hearing Hub to bring the nation's hearing research and treatment agencies together on the campus.

Macquarie University is well known for innovative industry partnerships that benefit its students. It was the first Australian university to partner with Google to provide all students, staff and alumni with free Gmail accounts. The university is also offering students a prepaid Mastercard® to use on campus or online, following an agreement with the Commonwealth Bank.

Challenge

Macquarie University has grown its student numbers over several years while increasing the flexibility of its teaching delivery methods to provide more choices for students.

These changes have resulted in longer operational hours, more night classes and a third semester that runs over the summer break.

Macquarie University is allowing students to bring their own devices – running Microsoft Windows, MacOS, iOS and Android operating systems – to lectures and tutorials. Students typically use between two and three wireless devices.

As a result, the university needed more network bandwidth to support students who complete and submit work online, download course information, stream lectures at home using their broadband connection, or work outside the lecture room.

"Students are demanding access to information around the clock and some of this data is quite bandwidth-intensive, for example, if they are listening to a lecture remotely," said Peter Hole, Manager, Implementation, Macquarie University. "About 70% of our lectures are captured as audio with presentation material attached, which has increased our bandwidth requirements."

Solution

Driven by a desire for reliability, business continuity and throughput, Macquarie University selected a virtual network fabric featuring Avaya's Virtual Enterprise Network Architecture (VENA). This provides application-based network virtualisation, which ensures each network application receives the appropriate 'quality of service' across the campus. These applications include active-active data centres, voice systems, campus video distribution and wireless local area network (WLAN) access. The new infrastructure enables Macquarie University to introduce virtual local area network (VLAN) services and endpoints on each of its segmented networks without having to make changes at the core of its network. This makes the network more flexible, robust and less expensive to operate.

Macquarie University increased the distribution layer trunk bandwidth to each campus building from 1 Gigabit Ethernet (1GE) to 10 Gigabit Ethernet (10GE) network speed. This will help it deal with expected bandwidth demand created by the uptake of mobile devices, multicast video streaming and remote lecture applications.

Macquarie University has around 50 buildings across the campus and its servers are being virtualized and migrated to 10GE connections. As a result, it has deployed core network switches that support very high 10GE port density.

The university uses Avaya Virtual Services Platform (VSP9000) switches, which provide high-density 10GE layer 2 and layer 3 switching capabilities, each able to support up to 240 ports. It also deployed several Avaya Ethernet Routing Switches (8800, 5500 and 4500 models) to run the latest VENA-ready switch code and support 10GE links into the VSP9000 switches. The virtual network fabric connects the university's network to data centres in

Ryde and Ultimo. This provides a network that can continue operating after a hardware or software failure or natural disaster.

"We chose Avaya products because they fit easily into our current environment," said Hole. "The split multi-link trunking functionality between Avaya that assists with load balancing, as well as the first-class support, advice and information provided by the Avaya engineering team also influenced our decision."

According to Hole, the test labs at Avaya's headquarters in Sydney were key to developing the network.

"First-rate engineers helped us every step of the way, testing designs and ensuring that they would be practical in the real world," Hole said.

Results

Improved network speed

The Avaya solution has helped Macquarie University increase network speed across the campus. Some of the university's older buildings now have 100 times the network throughput they had previously and students don't experience delays on busy days or when they download large files.

While the university has long offered a ubiquitous WiFi network for students and staff, the backhaul speed of the Avaya solution introduces network connectivity into new areas of the university. The increased network speed has supported explosive growth in WiFi-enabled devices.

"Students have WiFi access when they step off the train at Macquarie University train station, when they are in classrooms or outside sitting under a gum tree," he said.

No application restrictions

One major advantage of that speed is that the university does not need to place restrictions on what students can access on the network, including bandwidth-hungry applications craved by Generation Y such as Skype or Facetime for the iPad. This is beneficial to a university with a high number of overseas students.

"The network is resilient and fast enough to support our students calling their parents overseas from the shade of a tree in the courtyard," said Hole. "It's common to see many network-connected laptops and tablets open in the courtyard.

"Our students can be connected to their peers as soon as they step on campus and can stay in contact with their families and friends on the other side of the world."

Support for a 'green' campus

Implementing the new hardware also helps achieve the university's long-term strategy to offer a 'green campus'. The solution is more energy-efficient, which helps reduce the environmental footprint of the university's data centres. If the university selected another network equipment supplier to set up the same network over the next five years, it would:

- use about 8 million kilowatts of extra energy (the Avaya switches use up to 36% less power than competing products, according to independent Miercom tests)

- emit over 7,000 metric tons more CO_2 into the atmosphere

- generate almost 30,000 million extra units of heat over five years.

More offsite facilities

The speed and reliability of the network is allowing the university to offer more facilities to offsite students, such as its recently launched iLab – a new approach to university computer laboratories. This enables students to use many of the Microsoft Windows and Mac applications they require in their courses from anywhere in the world on most PCs and mobile devices.

Learn More

For more information on how Avaya can take your enterprise from where it is to where it needs to be, contact your Avaya Account Manager or a member of the Avaya Connect channel partner program, or access other collateral by clicking on Resource Library at **www.avaya.com**.

Applications, Systems & Services

Applications	Systems	Services
	Avaya Virtual Enterprise Network Architecture Avaya Virtual Services Platform 9000 Avaya Ethernet Routing Switch 8800 Avaya Ethernet Routing Switch 5500 Avaya Ethernet Routing Switch 4500	All design and implementation services provided by Avaya.

ABOUT MACQUARIE UNIVERSITY

Macquarie University is an Australian university located within the Macquarie Park high-technology corridor, north west of Sydney. The university comprises four faculties, with about 37,000 students and 2,468 academic and professional staff.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
06/12.

TEMPLE UNIVERSITY® Temple University Health System

AVAYA The Power of We™

Temple University and Temple University Health System

Challenges

- Consolidate medical and academic data centers into a single infrastructure that meets healthcare, education, and research standards
- Improve network availability, reliability, and overall performance
- Reduce power consumption, heat output
- Support future growth in network traffic from Cloud-based applications
- Control costs

Value Created

- Ability to develop and "future-proof" a high-performance, Cloud-based network
- Always-on reliability for critical healthcare functions and important academic/administrative applications
- Dramatic cost savings:
  - Significantly lower TCO vs. various competitors' systems
  - Up to $2 million saved on installation costs
  - Lower energy costs
  - Millions saved by combining data centers
- Seamless maintenance invisible to users

Leveraging Avaya Networking solutions for high performance, outstanding reliability, and future growth

Philadelphia, Pennsylvania—When Temple University and Temple University Health System joined forces to develop a new joint data center, they chose the Avaya Virtual Services Platform (VSP) 9000 and Avaya Ethernet Routing Switch 5520s and 5650s.

According to project leads Adam Ferrero, Executive Director of Network Services, and Mike Taylor, Assistant Vice President of Telecommunications, the success of data processing and communications for the university and Health System, both today and in the future, depends on the strength of the network.

Ferrero states, *"The network is so critical, we think of it as a basic utility. If it were to go down, most things would simply stop—from student registration and research, to radiology, and many other critical aspects of patient care—and the results would be dire. So we needed the best, most efficient system we could build to handle the huge number of applications required by our many education and healthcare facilities. Throughout the process of developing our network for the future, Avaya has partnered closely with us to make sure that each step we take works out well."*

"Avaya VSP 9000s in our core give us 10 to 20 times the capacity of our older environment. The price-and-performance profile of the Avaya Switches was clearly superior to anything we saw among the competition. Overall, the total cost of ownership proposition from Avaya was very powerful."

"We've not seen anything in terms of bandwidth from the student lab and from new medical apps that we haven't been able to handle. Our Avaya network is extremely resilient and flexible. I think we're on the leading edge of what a data center and a server environment should be. And we're definitely supporting the growing trend toward Cloud-based applications."

— Mike Taylor, Assistant Vice President of Telecommunications

The transformational choices that Temple University and Temple University Health System have made over the past few years began when the aging building that housed the Health System's data center was scheduled for demolition. The university decided to contract with an engineering firm that specializes in data centers. The firm was tasked with designing a high-performance data center to meet extremely demanding healthcare, education, and research requirements on bandwidth, network availability, cooling, and power usage. It became clear to the IT teams for both organizations that co-locating and sharing one combined data center would result in cost savings for the healthcare organization and access to a world-class data center and network for the university.

The project team was looking to handle not only the current bandwidth load at higher levels of reliability and lower power usage, but also to take on future bandwidth requirements. *"Our focus was on maximizing uptime, minimizing downtime; in short, achieving an extremely high level of reliability,"* Taylor explains. *"This is necessary because the number of applications that we are asked to support on both the healthcare side and the academic side continually grows, and we have to be ready and agile to support that growth."*

"Clearly superior" pricing and performance

In deciding on the switching infrastructure, Taylor, Ferrero, and their teams reviewed proposals from several vendors. Key considerations of reliability, performance, and cost ultimately led them to Avaya. They decided to purchase the Avaya VSP 9000 for the core of their network and Avaya Ethernet Routing Switch 5520s for the edge.

Taylor comments, *"Avaya VSP 9000s in our core give us 10 to 20 times the capacity of our older environment. The price-and-performance profile of the Avaya Switches was clearly superior to anything we saw among the competition. Overall, the total cost of ownership proposition from Avaya was very powerful."*

At the edge of the network, the Temple IT team set out an ambitious plan to swap in over 2,000 Ethernet Routing Switch 5520s across the campus. These Avaya Switches support convenient and cost-effective Power-over-Ethernet (PoE) technology that eliminates separate AC power supplies for any PoE devices connecting to the network.

"In the plans for our new 12,000-square-foot center, we worked out two completely separate power buses feeding each cabinet in the room," Taylor explains. *"To keep the Switches cool, we have quite an impressive chilled water plant. It was also important to find Ethernet Switches that could produce less heat and consume less power. Driving all of this was the fact that we needed an improved Switching core that could support our 10 Gbps uplinks."*

The flexible Avaya architecture made it possible for the Temple IT team to make a major cost-saving plan modification midstream—changing to an all-fiber distribution. *"Being able to make this decision well into the*

project was a major advantage for us. We estimate that it saved us about $1 1/2 to $2 million in installation costs," Taylor comments.

Reliable and cost-effective high-performance Switching

Consolidating the medical and academic computing in a single data center gave Temple a unique opportunity to save on infrastructure costs.

Taylor explains, *"Not having to support two data centers reduced both up-front costs and ongoing maintenance. We are able to save a lot of money by depending on the VSP 9000 to have the Switching capacity to handle all the traffic hitting our network, which is really central to the design of our data center."*

In its initial testing of the powerful VSP 9000s, the Temple IT team tried to 'break' the 9000s by flooding them with packets, but without success. Ferrero reports, *"In testing the resiliency of the VSP, no matter what we 'threw' at it, we could not slow the CPU on the chassis. The management function, the base function of the VSP 9000 chassis, is protected in hardware. That's outstanding!"*

The Avaya VSP 9000 is architected to support up to 27 terabits per second of total traffic with its unique Network Processing Unit technology. In the Avaya approach, large-scale CPU arrays efficiently examine and manipulate packet headers at 10 Gbps line rates.

Temple also takes advantage of Avaya's pioneering Switch Clustering technology to enable an always-on network. Temple's VSP 9000s are connected by multilink trunks so that if either one in the Cluster fails, the other will take over and handle the full load.

Moreover, the Avaya VSP 9000 is also resilient when it comes time for routine maintenance. *"We can make in-service updates to our VSP 9000s without affecting applications,"* observes Ferrero. *"It's all pretty seamless, and our users are completely unaware. The bottom line is that our uptime and reliability numbers are now higher."*

In summing up the Avaya Switches, Timothy O'Rourke, Temple University Chief Information Officer (CIO), notes: *"We have redundant Avaya VSP 9000s that actively work together. If one goes down, the other one can carry the full load without any impact to our users. We can take a whole series of these core Switches down, run updates on them, and reboot them. This allows us to upgrade without having to bring the network down. Without this redundancy, trying to update a busy university network such as Temple's—serving 39,000 students and four affiliated hospitals—is like trying to perform a heart transplant on someone who is running a marathon."*

Energy-efficient, future-proof network with outstanding Avaya support

With the Avaya core in place, the Temple IT team was confident that it had a network switching capacity to accommodate any new applications going forward. Temple University is using "thinner," Web-based software that is entirely dependent on the network. It recently built a student technology center—one of the largest in the United States—with 700 computers that are based on a Cloud model, which puts ever-increasing demands on the network.

"We've not seen anything in terms of bandwidth from the student lab and from new medical apps that we haven't been able to handle," Taylor emphasizes. *"Our Avaya network is extremely resilient and flexible. I think we're on the leading edge of what a data center and a server environment should be. And we're definitely supporting the growing trend towards Cloud-based applications."*

"In testing the resiliency of the VSP, no matter what we 'threw' at it, we could not slow the CPU on the chassis. The management function, the base function of the VSP 9000 chassis, is protected in hardware. That's outstanding!"

"We can make in-service updates to our VSP 9000s without affecting applications. It's all pretty seamless, and our users are completely unaware. The bottom line is that our uptime and reliability numbers are now higher."

— Adam Ferrero, Executive Director of Network Services

Along with reliability, energy efficiency has become an important consideration for data centers, especially with the current focus on greener computing. *"When we were going through the bid process, power efficiency and energy savings were very critical,"* Taylor recalls. *"We're trying to be as green as we can, and with the Avaya Switches we calculated substantial savings compared to other vendors."*

The Temple IT team plans to continue to leverage the relationship with Avaya, and especially the outstanding support it's received from the VSP team. *"Avaya's VSP engineers have the right can-do approach. The firmware upgrades we received from them have been incredibly easy to install and have made the product better and better,"* Ferrero says. *"Beyond that, as customers, we feel that Avaya just always does the right thing by us, and that type of relationship is important to achieving our goals."*

Learn More

For more information, contact your Avaya Account Manager or a member of the Avaya Connect channel partner program, or access other collaterals by clicking on Resource Library at **www.avaya.com**.

Statements in this case study were made by Mike Taylor, Assistant Vice President of Telecommunications; Adam Ferrero, Executive Director of Network Services; and Timothy O'Rourke, Chief Information Officer.

"We have redundant Avaya VSP 9000s that actively work together. If one goes down, the other one can carry the full load without any impact to our users. We can take a whole series of these core Switches down, run updates on them, and reboot them. This allows us to upgrade without having to bring the network down."

— Timothy O'Rourke, Chief Information Officer

Systems and Applications

- Avaya Virtual Services Platform 9000
- Avaya Ethernet Routing Switch 5520

ABOUT TEMPLE UNIVERSITY

Founded in 1884 by Dr. Russell Conwell, Temple College became Temple University in 1907 and has evolved into a comprehensive urban research and academic institution. The University's 39,000 students can choose from 9 campuses and 333 academic degree programs. For more information, please visit **www.temple.edu**.

ABOUT TEMPLE UNIVERSITY HEALTH SYSTEM

Temple University Health System consists of Temple University Hospital (TUH); TUH-Episcopal Campus; TUH-Northeastern Campus; Fox Chase Cancer Center; Jeanes Hospital; Temple Transport Team; and Temple Physicians, Inc., a network of community-based specialty and primary-care physician practices. For more information, please visit **www.templehealth.org**.

About Avaya

Avaya is a global provider of business collaboration and communications solutions, providing unified communications, contact centers, networking and related services to companies of all sizes around the world. For more information please visit **www.avaya.com.**

© 2012 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
11/12 • DN7153

Avaya Fabric Enabled Networking to Power InteropNet at Interop 2013

Overview and Q&A

AVAYA
The Power of We™

Summary

Interop has chosen Avaya networking technology and equipment to power InteropNet 2013, one of the world's largest temporary networks and the premier example of how to deliver a multi-vendor, converged network. Avaya Virtual Enterprise Network Architecture (VENA) Fabric Connect technology, that dramatically simplifies network design, deployment and management, will be used to build this end-to-end fabric network.

InteropNet will include the Avaya Virtual Services Platform 9000, the Ethernet Routing Switch 8800, the Ethernet Routing Switch 4800 and the newly announced VSP 4000. Encompassing an end-to-end fabric that extends from Core to Access and that integrates scalable Layer 2, Layer 3 and IP Multicast services, this network will be a true showcase for Avaya networking innovations.

Avaya technology included in InteropNet 2013 and the benefits it provides are highlighted in the Q&A that follows:

What is Avaya VENA Fabric Connect?

Avaya VENA Fabric Connect extends from Data Center to desktop to transform the entire network into a more agile network that is easier to configure, manage and maintain. A standards-based fabric technology based on IEEE 802.1aq Shortest Path Bridging and IETF 6329, Avaya VENA Fabric Connect delivers the industry's most comprehensive array of network services, including Layer 2 and Layer 3 virtualization with optimized routing and now, IP multicast support.

Avaya VENA Fabric Connect allows customers to gradually phase out multiple complex legacy technologies and, instead, to enable all services through a single, next-generation technology. Services can be deployed using simple end point provisioning, accelerating time to service and reducing potential for error.

Avaya VENA Fabric Connect Technology:

- Uses true multi-pathing for more efficient use of resources
- Eliminates the need to deploy multiple protocols to implement multiservice networks
- Recovers all services, including multicast, in sub seconds
- Delivers high performance networking; from source to destination, traffic always takes the shortest latent path
- Enables secure traffic separation for multi-tenancy, regulatory, or security reasons via integrated VRF or Layer 3 Virtualization capabilities
- Allows unrestricted vMotion by extending L2 services within and between Data Centers
- Optimizes routing and multicast without IGPs, PIM or MPLS-based protocols

What is the role of Avaya VENA Fabric Connect in InteropNet?

Providing the foundation for the InteropNet 2013 environment, Avaya VENA Fabric Connect has two vital roles: (1) through the Interop show floor network, it will deliver universal Internet access, connectivity and selected booth-to-booth connectivity for event sponsors, and (2) through the off-show network, it will provide connectivity for keynotes, registration services and workshops.

How does Avaya VENA Fabric Connect benefit Interop organizers and the InteropNet team?

The benefits of Avaya VENA Fabric Connect technology, detailed below, include simplicity, agility and resiliency.

Simplicity: When a mission critical environment is required for a large, high profile event that includes multiple vendor technologies, network design can be difficult. To simplify the process, Avaya VENA Fabric Connect provides virtualized services between any two endpoints, wherever and whenever required, regardless of underlying physical topology.

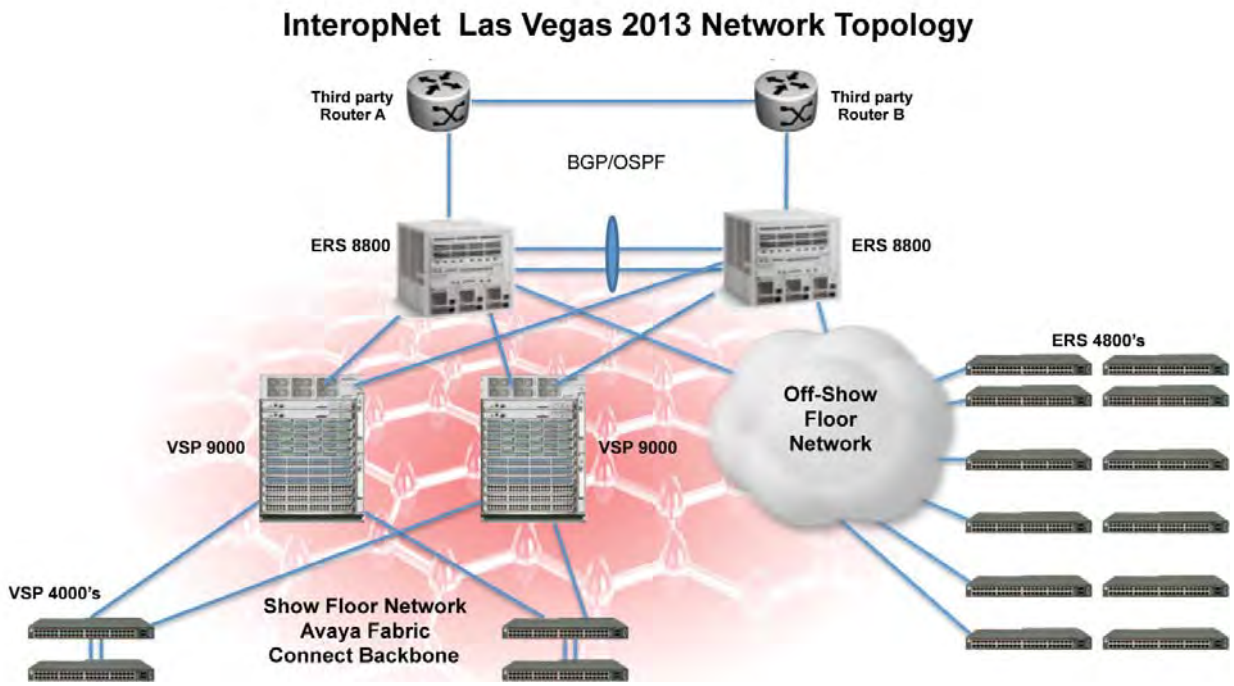
This new paradigm in building networks proved exceptionally useful when architecting InteropNet because changes to initial network design (resulting from venue-specific physical topology limitations) had no impact on how the virtualized services could be deployed. Further simplifying tasks of the InteropNet team, Avaya VENA Fabric Connect supports integrated Routing, IP Multicast, and Layer 2/3 virtualized services without the deployment of multiple technologies and overlay protocols. Video surveillance traffic, for example, will be carried seamlessly across the network fabric without the addition of convoluted PIM-based protocols.

And having a single technology deployed end-to-end makes event hot staging deployment and troubleshooting, which is always very intense, dramatically easier.

Resiliency: The high-performance Avaya VENA Fabric Connect solution delivers a load-balanced, always-on network with lightning-fast re-convergence. Its sub-20-millisecond re-convergence times can enhance the overall Interop experience by keeping applications active even if links or nodes fail.

Agility: With Avaya VENA Fabric Connect new services or changes to services are implemented on Edge or Access nodes only and each end point triggers the network to find the shortest path (through to destination) automatically. The InteropNet team can meet the real-time needs of attendees and sponsors by making network changes on-the-fly because Avaya VENA Fabric Connect eliminates the need for complex device-by-device manual provisioning of legacy technologies. This kind of network agility contributes significantly to the success of dynamic events such as Interop.

Honored by its selection to contribute to the InteropNet 2013 environment, Avaya looks forward to showcasing Avaya VENA Fabric Connect technology and its fundamentally new approach to building networks. Public tours of the InteropNet NOC will take place at 11:00 A.M., 1:00 P.M. and 3:00 P.M. on Wednesday, May 8th and Thursday, May 9th. Registration for tours is on a first-come, first-serve basis and will be available, on site, at Interop 2013 in Las Vegas. Avaya will also be hosting private tours of the InteropNet NOC at 2:00 P.M on Wednesday and Thursday. Please contact your Avaya sales representative for more details.



For more information:

About the Interop Event: Interop Las Vegas – May 6-10th

About Avaya VENA Fabric Connect:

- Packet Pushers podcast: Considerations for turning your network into a fabric
- Case Study: Sochi 2014 Olympic Winter Games
- www.avaya.com/vena

© 2013 Avaya Inc. All Rights Reserved.
All trademarks identified by ®, ™, or ℠ are registered marks, trademarks, and service marks, respectively, of Avaya Inc.
04/13

Supplier: **Avaya**

STATE OF UTAH

SOLICITATION NO. JP14001

WSCA-NASPO Data Communications Products & Services

RESPONSES DUE NO LATER THAN:

Aug 30, 2013 11:00:00 AM MDT

RESPONSES MAY BE SUBMITTED ELECTRONICALLY TO:

www.bidsync.com

RESPONSES MAY BE MAILED OR DELIVERED TO:

State of Utah
Division of Purchasing
3150 State Office Building, Capitol Hill
Salt Lake City, Utah 84114-1061

Supplier: **Avaya**

State of Utah
Request for Proposal

Legal Company Name (include d/b/a if applicable)	Federal Tax Identification Number	State of Utah Sales Tax ID Number
Avaya Inc	**22-3713430**	

Ordering Address	City	State	Zip Code
4655 Great American Parkway	**Santa Clara**	**CA**	**954054-1233**
Remittance Address (if different from ordering address)	City	State	Zip Code

Type Corporation ☐ Partnership ☐ Proprietorship ☑ Government ☐	Company Contact Person **Teresa Just**
Telephone Number (include area code) **801-975-5707**	Fax Number (include area code) **801-975-5707**
Company=s Internet Web Address **www.avaya.com**	Email Address **tjust@avaya.com**
Discount Terms (for bid purposes, bid discounts less than 30 days will not be considered) **Net 30**	Days Required for Delivery After Receipt of Order (see attached for any required minimums) **10 Days**

The undersigned certifies that the goods or services offered are produced, mined, grown, manufactured, or performed in Utah. Yes No ☑ . If no, enter where produced, etc. **N/A**

Offeror=s Authorized Representative=s Signature	Date

See attached	**August 30, 2013**
Type or Print Name **Edward J. Walton**	Position or Title **VP Networking**

N O T I C E

When submitting a response (proposal, quote or bid) electronically through BidSync, it is the sole responsibility of the supplier to ensure that the response is received by BidSync prior to the closing date and time. Each of the following steps in BidSync MUST be completed in order to place an offer:

A. Login to www.bidsync.com;
B. Locate the bid (solicitation) to which you are responding;
    a. Click the "Search" tab on the top left of the page;
    b. Enter keyword or bid (solicitation) number and click "Search";
C. Click on the "Bid title/description" to open the Bid (solicitation) Information Page;
D. "View and Accept" all documents in the document section;
E. Select "Place Offer" found at the bottom of the page;
F. Enter your pricing, notes, other required information and upload attachments to this page;
G. Click "Submit" at the bottom of the page;
H. Review Offer(s); and
I. Enter your password and click "Confirm".

Note that the final step in submitting a response involves the supplier's acknowledgement that the information and documents entered into the BidSync system are accurate and represent the supplier's actual proposal, quote or bid. This acknowledgement is registered in BidSync when the supplier clicks "Confirm". BidSync will post a notice that the offer has been received. This notice from BidSync MUST be recorded prior to the closing date and time or the response will be considered late and will not be accepted.

Be aware that entering information and uploading documents into BidSync may take considerable time. Please allow sufficient time to complete the online forms and upload documents. Suppliers should not wait until the last minute to submit a response. It is recommended that suppliers submit responses a minimum of 24 hours prior to the closing deadline. The deadline for submitting information and documents will end at the closing time indicated in the solicitation. All information and documents must be fully entered, uploaded, acknowledged (Confirm) and recorded into BidSync before the closing time or the system will stop the process and the response will be considered late and will not be accepted.

Responses submitted in BidSync are completely secure. No one (including state purchasing staff) can see responses until after the deadline. Suppliers may modify or change their response at any time prior to the closing deadline. However, all modifications or changes must be completed and acknowledged (Confirm) in the BidSync system prior to the deadline. BidSync will post a notice that the modification/change (new offer) has been received. This notice from BidSync MUST be recorded prior to the closing date and time or the response will be considered late and will not be accepted.

Utah Code 46-4-402(2) Unless otherwise agreed between a sender (supplier) and the recipient (State Purchasing), an electronic record is received when: (a) it enters an information processing system that the recipient has designated or uses for the purpose of receiving electronic records or information of the type sent and from which the recipient is able to retrieve the electronic record; and (b) it is in a form capable of being processed by that system.

REQUEST FOR PROPOSAL - INSTRUCTIONS AND GENERAL PROVISIONS

1. SUBMITTING THE PROPOSAL: (a) The Utah Division of Purchasing and General Services (DIVISION) prefers that proposals be submitted electronically. Electronic proposals may be submitted through a secure mailbox at BidSync (formerly RFP Depot, LLC) (www.bidsync.com) until the date and time as indicated in this document. It is the sole responsibility of the supplier to ensure their proposal reaches BidSync before the closing date and time. There is no cost to the supplier to submit Utah's electronic proposals via BidSync. (b) Electronic proposals may require the uploading of electronic attachments. The submission of attachments containing embedded documents is prohibited. All documents should be attached as separate files. (c) If the supplier chooses to submit the proposal directly to the DIVISION in writing: The proposal must be signed in ink, sealed, and delivered to the Division of Purchasing, 3150 State Office Building, Capitol Hill, Salt Lake City, UT 84114-1061 by the "Due Date and Time." The "Solicitation Number" and "Due Date" must appear on the outside of the envelope. All prices and notations must be in ink or typewritten. Each item must be priced separately. Unit price shall be shown and a total price shall be entered for each item offered. Errors may be crossed out and corrections printed in ink or typewritten adjacent and must be initialed in ink by person signing offer. Unit price will govern, if there is an error in the extension. Written offers will be considered only if it is submitted on the forms provided by the DIVISION. (d) Proposals, modifications, or corrections received after the closing time on the "Due Date" will be considered late and handled in accordance with the Utah Procurement Rules, section R33-3-209. (e) Facsimile transmission of proposals to DIVISION will not be considered.

2. PROPOSAL PREPARATION: (a) Delivery time of products and services is critical and must be adhered to as specified. (b) Wherever in this document an item is defined by using a trade name of a manufacturer and/or model number, it is intended that the words, "or equivalent" apply. "Or equivalent" means any other brand that is equal in use, quality, economy and performance to the brand listed as determined by the DIVISION. If the supplier lists a trade name and/or catalog number in the offer, the DIVISION will assume the item meets the specifications unless the offer clearly states it is an alternate, and describes specifically how it differs from the item specified. All offers must include complete manufacturer=s descriptive literature if quoting an equivalent product. All products are to be of new, unused condition, unless otherwise requested in this solicitation. (c) Incomplete proposals may be rejected. (d) Where applicable, all proposals must include complete manufacturer=s descriptive literature. (e) By submitting the proposal the offeror certifies that all of the information provided is accurate, that they are willing and able to furnish the item(s) specified, and that prices offered are correct. (f) This proposal may not be withdrawn for a period of 60 days from the due date.

3. FREIGHT COST: Suppliers are to provide line item pricing FOB Destination Freight Prepaid. Unless otherwise indicated on the contract/purchase order, shipping terms will be FOB Destination Freight Prepaid.

4. SOLICITATION AMENDMENTS: All changes to this solicitation will be made through written addendum only. Answers to questions submitted through BidSync shall be considered addenda to the solicitation documents. Bidders are cautioned not to consider verbal modifications.

5. PROTECTED INFORMATION: Suppliers are required to mark any specific information contained in their offer which they are claiming as protected and not to be disclosed to the public or used for purposes other than the evaluation of the offer. Each request for non-disclosure must be made by completing the "Confidentiality Claim Form" located at: http://www.purchasing.utah.gov/contract/documents/confidentialityclaimform.doc with a specific justification explaining why the information is to be protected. Pricing and service elements of any proposal will not be considered proprietary. All material becomes the property of the DIVISION and may be returned only at the DIVISION 's option.

6. BEST AND FINAL OFFERS: Discussions may be conducted with offerors who submit proposals determined to be reasonably susceptible of being selected for award for the purpose of assuring full understanding of, and responsiveness to, solicitation requirements. Prior to award, these offerors may be asked to submit best and final offers. In conducting discussions, there shall be no disclosure of any information derived from proposals submitted by a competing offeror.

7. SAMPLES: Samples of item(s) specified in this offer, brochures, etc., when required by the DIVISION, must be furnished free of expense to the DIVISION. Any item not destroyed by tests may, upon request made at the time the sample is furnished, be returned at the offeror's expense.

8. AWARD OF CONTRACT: (a) The contract will be awarded with reasonable promptness, by written notice, to the responsible offeror whose proposal is determined to be the most advantageous to the DIVISION, taking into consideration price and evaluation factors set forth in the RFP. No other factors or criteria will be used in the evaluation. The contract file shall contain the basis on which the award is made. Refer to Utah Code Annotated 65-

56-408. (b) The DIVISION may accept any item or group of items, or overall best offer. The DIVISION can reject any or all proposals, and it can waive any informality, or technicality in any proposal received, if the DIVISION believes it would serve the best interests of the DIVISION. (c) Before, or after, the award of a contract the DIVISION has the right to inspect the offeror's premises and all business records to determine the offeror's ability to meet contract requirements. (d) The DIVISION will open proposals publicly, identifying only the names of the offerors. During the evaluation process, proposals will be seen only by authorized DIVISION staff and those selected by DIVISION to evaluate the proposals. Following the award decision, all proposals become public information except for protected information (see number 5 above). A register of proposals and contract awards are posted at http://purchasing.utah.gov/vendor/bidtab.html. (e) Estimated quantities are for bidding purposes only, and not to be interpreted as a guarantee to purchase any amount. (f) Utah has a reciprocal preference law which will be applied against offerors offering products or services produced in states which discriminate against Utah products. For details see Section 63G-6-404 and 63G-6-405, Utah Code Annotated. (g) Multiple contracts may be awarded if the DIVISION determines it would be in its best interest.

9. DEBRIEFING OF UNSUCCESSFUL OFFERORS:
State Purchasing does not conduct face to face or teleconference debriefings. All debriefings are to be conducted in writing. A debrief request must be submitted in writing to the Purchasing Agent within seven (7) calendar days of the award notification or rejection notification made through written correspondence or posted on BidSync. The debrief response will be limited to critiquing the strength/weakness of an offeror's proposal based on the evaluation criteria. The debriefing is intended as a courtesy to offerors, providing feedback to be used for future opportunities. Comparisons between proposals or evaluations of other proposals will not be allowed.

10. DIVISION APPROVAL: Contracts written with the State of Utah, as a result of this proposal, will not be legally binding without the written approval of the Director of the DIVISION.

11. DEBARMENT: The CONTRACTOR certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction (contract) by any governmental department or agency. If the CONTRACTOR cannot certify this statement, attach a written explanation for review by the DIVISION.

12. ENERGY CONSERVATION AND RECYCLED PRODUCTS: The contractor is encouraged to offer Energy Star certified products or products that meet FEMP (Federal Energy Management Program) standards for energy consumption. The State of Utah also encourages contractors to offer products that are produced with recycled materials, where appropriate, unless otherwise requested in this solicitation.

13. GOVERNING LAWS AND REGULATIONS: All State purchases are subject to the Utah Procurement Code, Title 63 Chapter 56 U.C.A. 1953, as amended, and the Procurement Rules as adopted by the Utah State Procurement Policy Board. These are available on the Internet at www.purchasing.utah.gov. By submitting a bid or offer, the bidder/offeror warrants that the bidder/offeror and any and all supplies, services equipment, and construction purchased by the State shall comply fully with all applicable Federal and State laws and regulations, including applicable licensure and certification requirements.

14. SALES TAX ID NUMBER: Utah Code Annotated (UCA) 59-12-106 requires anyone filing a bid with the state for the sale of tangible personal property or any other taxable transaction under UCA 59-12-103(1) to include their Utah sales tax license number with their bid. For information regarding a Utah sales tax license see the Utah State Tax Commission's website at www.tax.utah.gov/sales. The Tax Commission is located at 210 North 1950 West, Salt Lake City, UT 84134, and can be reached by phone at (801) 297-2200.

(Revision Date: 05 Nov 2012 - RFP Instructions)

STEPcg

STEPcg LLC
407 Vine Street, Suite 210
Cincinnati, OH 45202

Quote

Quote Date: 08/18/2017
Valid Till: 09/15/2017
Quote Number : Q-2094

BILL TO:	SHIP TO:
City of Boynton Beach ,	**City of Boynton Beach** ,

Contact Name:**Charles Stevens** | Quote Stage:**Delivered**

S.No.	Product Details	Qty	List Price	Discount	Total
1.	**EC7200E3F-E6** VSP 7254XSQ WITH 24 1/10G SFP+ AND 4 40G QSFP+ PORTS ENABLED. INCL. BASE LIC, FRONT TO BACK FANS, 1 460W AC PSU (NA POWER CORD). TRANSCEIVERS AND OPTNL RACK	4	$20,595.00	$43,661.40	$38,718.60
2.	**Avaya EC7205E1F-E6** VSP 7200 460W AC SPARE POWER SUPPLY FRONT TO BACK COOLING (NA POWER CORD)	4	$737.00	$1,474.00	$1,474.00
3.	**Avaya AA1403015-E6** 1-port 10GBASE-SR Small Form Factor Pluggable Plus (SFP+) 10 Gigabit Ethernet Transceiver, connector type: LC. Supports high modal bandwidth MMF (i.e. 50um, 2000MHz*km) for interconnects up to 300m. Core 62.5um fiber also supported. Please refer to doc	4	$995.00	$2,109.40	$1,870.60
4.	**Avaya AA1403019-E6** SFP+ Direct Attach Cable. 3m	4	$360.00	$748.80	$691.20
5.	**Avaya AA1403020-E6** SFP+ Direct Attach Cable. 5m	36	$464.00	$8,853.12	$7,850.88
6.	**Avaya AA1419043-E6** 1-port 1000BASE-T Small Form Pluggable (SFP), 8-pin modular connector (RJ-45).	6	$412.00	$1,285.44	$1,186.56
7.	**Avaya EC8011002-E6** OPTIONAL UNIVERSAL SLIDE RACK MOUNT KIT (300MM - 900MM) FOR USE WITH VSP 7200, 8200 AND 8400.	4	$525.00	$1,113.00	$987.00
8.	**334201** SA PREFER PRT 24X7 FB NT VSP 7200 1YPP	4	$2,421.00	$2,227.32	$7,456.68
9.	**Installation** STEPcg Remote Installation.	30	$150.00	$0.00	$4,500.00
				Sub Total	**$64,735.52**
				Tax	$0.00
				Grand Total	**$64,735.52**

Terms and Conditions

Shipping and state/local sales tax may apply.
State of FL Contract# NASPO AR603

Contract Product Category	UNSPSC	Order Code	Long Desc
Switches	43191500	EC7200E3F-E6	VSP 7254XSQ WITH 24 1/10G SFP+ AND 4 40G QSFP+ PORTS ENABLED. INCL. BASE LIC, FR
Switches	43191500	EC7205E1F-E6	VSP 7200 460W AC SPARE POWER SUPPLY FRONT TO BACK COOLING (NA POWER CORD)
SWITCHES	43191500	AA1403020-E6	SFP+ Direct Attach Cable. 5m
SWITCHES	43191500	AL7011001-E6	VSP7000 4 POST SERVER RACK MOUNT KIT
Networking	43191500	AA1419043-E6GS	1-port 1000BASE-T Small Form Pluggable (SFP), 8-pin modular connector (RJ-45).
SWITCHES	43191500	AA1403019-E6	SFP+ Direct Attach Cable. 3m
SWITCHES	43191500	AA1403015-E6	1-port 10GBASE-SR Small Form Factor Pluggable Plus (SFP+) 10 Gigabit Ethernet Tr
Services	81111800	334201	SA PREFER PRT 24X7 FB NT VSP 7200 1YPP

ce File

Unit of Measure	APM Material Price Group	APL PRICE	NASPO DISCOUNT	NASPO PRICE
EA	6P	20,595.00	38%	12,768.90
EA	6P	695.00	38%	430.90
EA	6P	435.00	38%	269.70
EA	6P	651.00	38%	403.62
EA	6P	389.00	38%	241.18
EA	6P	338.00	38%	209.56
EA	6P	995.00	38%	616.90
EA	1S	201.75	7%	187.63

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Approve utilizing the Palm Beach County, FL Sole Source Solicitation SS55542 with IXOM Watercare, Inc.) for MIEX DOC Anion Exchange Resin with the same terms, conditions, specifications and pricing. The maximum anticipated annual expenditure for the purchase of MIEX DOC Resin is $275,000. Palm Beach County has complied with purchasing policies and considered this as a sole source provider of resin.

EXPLANATION OF REQUEST:
SS55542 time period: October 3, 2017 thru October 2, 2018.

As part of the upgrade and expansion of the East Water Treatment Plant, the MIEX ion exchange treatment process was added to remove organics from the raw water from the western wellfield. The MIEX process utilizes magnetically charged DOC anion exchange resin beads which aid in the removal and settling of the organics. Over time, attrition of the resin beads occurs and additional resin must be added to maintain the ongoing operation of the treatment process.

Utilities will piggyback an existing Palm Beach County contract with IXOM Watercare, Inc. for the purchase of the MIEX DOC Anion Exchange Resin.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? The use of the MIEX DOC resin is required for the ongoing operation of the MIEX ion exchange process in order to provide high quality drinking water to the customers of Boynton Beach Utilities.

FISCAL IMPACT: Budgeted Budgeted Funding is available in Utilities account 401-2811-536-52.35.

ALTERNATIVES: Since the MIEX treatment process is an integral part of the East Water Treatment Plant, there is no feasible alternative at this time.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Addendum	Sole Source Solicitation
Addendum	IXOM Contract Award
Attachment	PBC Sole Source Justification

Board of County Commissioners

Paulette Burdick, Mayor
Melissa McKinlay, Vice Mayor
Hal R. Valeche
Dave Kerner
Steven L. Abrams
Mary Lou Berger
Mack Bernard

County Administrator

Verdenia C. Baker

Purchasing Department
www.pbcgov.org/purchasing

BOARD OF COUNTY COMMISSIONERS
SOLE SOURCE SOLICITATION
#SS555442/KM

IXOM WATERCARE, INC. MIEX DOC RESIN, PURCHASE AND DELIVERY OF, TERM CONTRACT

DUE DATE: JULY 14, 2017 AT 4:00 P.M.

It is the sole purpose and intent of this solicitation to secure a contract for item(s) and/or services as listed herein. The sole source vendor is hereby placed on notice that acceptance of its response by Palm Beach County shall constitute a binding contract.

This Solicitation, General Conditions, Instructions, Special Conditions, Specifications, Attachments, Amendments (if issued), and/or any other referenced document form a part of this solicitation and response thereto, and by reference are made a part thereof. The sole source vendor shall be bound by all terms, conditions and requirements in these documents. Vendor shall notify Palm Beach County Purchasing Department immediately if the sole source status changes.

SUBMIT SOLICITATION TO:

Palm Beach County Purchasing Department
Attention: Kristen A. Monnett, Senior Buyer
50 South Military Trail, Suite 110
West Palm Beach, Florida 33415-3199
Fax #: (561) 242-6724
E-mail: kmonnett@pbcgov.org

Solicitation may be submitted via fax or e-mail.

C A U T I O N

In order to do business with Palm Beach County, vendors are required to create a Vendor Registration Account OR activate an existing Vendor Registration Account through the Purchasing Department's Vendor Self Service (VSS) system which can be accessed at https://pbcvssp.co.palm-beach.fl.us/webapp/vssp/AltSelfService.

In accordance with the provisions of ADA, this document may be requested in an alternate format.

50 South Military Trail, Suite 110, West Palm Beach, FL 33415-3199
(561) 616-6800 FAX: (561) 616-6811

GENERAL CONDITIONS, INSTRUCTIONS AND INFORMATION
GENERAL CONDITIONS

1. GENERAL INFORMATION

Vendor is advised that this package constitutes the complete set of specifications, terms, and conditions which forms the binding contract between Palm Beach County and the vendor. Changes to this solicitation may be made only by written amendment issued by the County Purchasing Department. Vendor is further advised to closely examine every section of this document, to ensure that all sequentially numbered pages are present, and to ensure that it is fully understood. Questions or requests for explanations or interpretations of this document must be submitted to the Purchasing Department contact in writing. Vendor certifies that its response is made without reliance on any oral representations made by the County.

The obligations of Palm Beach County under this award are subject to the availability of funds lawfully appropriated for its purpose.

2. LEGAL REQUIREMENTS

a. **COMPLIANCE WITH LAWS AND CODES**: Federal, State, County and local laws, ordinances, rules and regulations that in any manner affect the items covered herein apply. Lack of knowledge by the vendor shall in no way be a cause for relief from responsibility. The vendor shall strictly comply with Federal, State and local building and safety codes. Equipment shall meet all State and Federal Safety regulations. Vendor certifies that all products (materials, equipment, processes, or other items supplied in response to this solicitation) contained in its response meets all ANSI, NFPA and all other Federal and State requirements. Vendor further certifies that if the product delivered is subsequently found to be deficient in any of the aforementioned requirements in effect on date of delivery, all costs necessary to bring the product into compliance shall be borne by the vendor.

   Any toxic substance provided to the County as a result of this solicitation or resultant contract shall be accompanied by its Safety Data Sheet (SDS).

   The Uniform Commercial Code (Florida Statutes, Chapter 672) shall prevail as the basis for contractual obligations between the vendor and Palm Beach County for any terms and conditions not specifically stated in the solicitation.

b. **DISCRIMINATION PROHIBITED**: Palm Beach County is committed to assuring equal opportunity in the award of contracts and complies with all laws prohibiting discrimination. Pursuant to Palm Beach County Resolution R-2014-1421, as may be amended, the vendor warrants and represents that all of its employees are treated equally during employment without regard to race, color, religion, disability, sex, age, national origin, ancestry, marital status, familial status, sexual orientation, gender identity and expression or genetic information. Per Resolution R-2014-1421, as may be amended, the vendor shall comply with the requirements set forth in Section 3.d. hereinbelow.

c. **INDEPENDENT CONTRACTOR RELATIONSHIP**: The vendor is, and shall be, in the performance of all work, services, and activities under this Contract, an Independent Contractor and not an employee, agent, or servant of the County. All persons engaged in any of the work or services performed pursuant to this Contract shall at all times, and in all places, be subject to the vendor's sole direction, supervision, and control. The vendor shall exercise control over the means and manner in which it and its employees perform the work, and in all respects the vendor's relationship, and the relationship of its employees, to the County shall be that of an Independent Contractor and not as employees or agents of the County.

d. **CRIMINAL HISTORY RECORDS CHECK ORDINANCE**: Pursuant to Palm Beach County Code Section 2-371 through 2-377, the Palm Beach County Criminal History Records Check Ordinance ("Ordinance"), the County will conduct fingerprint based criminal history record checks on all persons not employed by the County who repair, deliver, or provide goods or services for, to, or on behalf of the County. A fingerprint based criminal history record check shall be conducted on all employees of vendors, contractors, and subcontractors of contractors, including repair persons and delivery persons, who are unescorted when entering a facility determined to be either a critical facility ("Critical Facilities") or a criminal justice information facility ("CJI Facilities"), which are critical to the public safety and security of the County. County facilities that require this heightened level of security are identified in Resolution R-2003-1274, as amended. In October 2013, compliance with the requirements of the U. S. Federal Bureau of Investigations CJI Security Policy was added to the Ordinance, which includes a broad list of disqualifying offenses. The vendor is solely responsible for understanding the financial, schedule, and/or staffing implications of this Ordinance. Further, the vendor acknowledges that its bid price includes any and all direct or indirect costs associated with compliance of with this Ordinance, except for the applicable FDLE/FBI fees that shall be paid by the County.

e. **PUBLIC ENTITY CRIMES**: F.S. 287.133 requires Palm Beach County to notify all vendors of the following: "A person or affiliate who has been placed on the convicted vendor list following a conviction for a public entity crime may not submit a response on a contract with a public entity for the construction or repair of a public building or public work, may not submit bids on leases of real property to a public entity, may not be awarded or perform work as a contractor, supplier, subcontractor, or consultant under a contract with any public entity, and may not transact business with any public entity in excess of the threshold amount provided in F.S. 287.017 for CATEGORY TWO for a period of 36 months from the date of being placed on the convicted vendor list."

f. **NON-COLLUSION**: Vendor certifies that it has entered into no agreement to commit a fraudulent, deceitful, unlawful, or wrongful act, or any act which may result in unfair advantage for one or more vendors over other vendors. Conviction for the Commission of any fraud or act of collusion in connection with any sale, bid, quotation, proposal or other act incident to doing business with Palm Beach County may result in permanent debarment.

   No premiums, rebates or gratuities are permitted; either with, prior to or after any delivery of material or provision of services. Any such violation may result in award cancellation, return of materials, discontinuation of services, removal from the vendor bid list(s), and/or debarment or suspension from doing business with Palm Beach County.

g. **CONFLICT OF INTEREST**: Vendor shall disclose with their response the name of any officer, director, or agent who is also an employee or a relative of an employee of Palm Beach County. Further, vendor shall disclose the name of any County employee or relative of a County employee who owns, directly or indirectly, an interest of ten percent or more in the vendor's firm or any of its branches.

h. **SUCCESSORS AND ASSIGNS**: The County and the vendor each binds itself and its successors and assigns to the other party in respect to all provisions of this Contract. Neither the County nor the vendor shall assign, sublet, convey or transfer its interest in this Contract without the prior written consent of the other.

i. **INDEMNIFICATION**: Regardless of the coverage provided by any insurance, the vendor shall indemnify, save harmless and defend the County, its agents, servants, or employees from and against any and all claims, liability, losses and/or causes of action which may arise from any negligent act or omission of the vendor, its subcontractors, agents, servants or employees during the course of performing services or caused by the goods provided pursuant to this solicitation and/or resultant contract.

j. **PUBLIC RECORDS, ACCESS AND AUDITS**: Any material submitted in response to this solicitation is considered a public document in accordance with Section 119.07, F.S. This includes material which the vendor might consider to be confidential. All submitted information that the vendor believes to be confidential and exempt from disclosure (i.e., a trade secret or as provided for in Section 119.07 and Section 812.081, F.S.) must be specifically identified as such. Upon receipt of a public records request for such information, a determination will be

made as to whether the identified information is, in fact, confidential.

The vendor shall maintain records related to all charges, expenses, and costs incurred in estimating and performing the work for at least three (3) years after completion or termination of this Contract. The County shall have access to such records as required in this Section for the purpose of inspection or audit during normal business hours, at the vendor's place of business.

Notwithstanding anything contained herein, as provided under Section 119.0701, F.S., if the Vendor: **(i) provides a service; and (ii) acts on behalf of the County as provided under Section 119.011(2), F.S.,** the Vendor shall comply with the requirements of Section 119.0701, Florida Statutes, as it may be amended from time to time. The Vendor is specifically required to:

1) Keep and maintain public records that ordinarily and necessarily would be required by the County in order to perform the service;
2) Upon request from the County's Custodian of Public Records ("County's Custodian") or the County's representative/liaison, on behalf of the County's Custodian, provide the County with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in Chapter 119 or as otherwise provided by law. The Vendor further agrees that all fees, charges and expenses shall be determined in accordance with Palm Beach County PPM CW-F-002, Fees Associated with Public Records Requests, as it may be amended or replaced from time to time.
3) Ensure that public records that are exempt, or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the Contract, if the Vendor does not transfer the records to the public agency. Nothing contained herein shall prevent the disclosure of or the provision of records to the County.
4) Upon completion of the Contract, the Vendor shall transfer, at no cost to the County, all public records in possession of the Vendor unless notified by the County's representative/liaison, on behalf of the County's Custodian, to keep and maintain public records required by the County to perform the service. If the Vendor transfers all public records to the County upon completion of the Contract, the Vendor shall destroy any duplicate public records that are exempt, or confidential and exempt from public records disclosure requirements. If the Vendor keeps and maintains public records upon completion of the Contract, the Vendor shall meet all applicable requirements for retaining public records. All records stored electronically by the Vendor must be provided to County, upon request of the County's Custodian or the County's representative/liaison, on behalf of the County's Custodian, in a format that is compatible with the information technology systems of the County, at no cost to the County.

Vendor acknowledges that it has familiarized itself with the requirements of Chapter 119, F. S., and other requirements of state law applicable to public records not specifically set forth herein. Failure of the Vendor to comply with the requirements of this Section, Chapter 119, F.S. and other applicable requirements of state law, shall be a material breach of this Contract. The County shall have the right to exercise any and all remedies available to it for breach of contract, including but not limited to, the right to terminate for cause.

IF THE VENDOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE VENDOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, PLEASE CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT RECORDS REQUEST, PALM BEACH COUNTY PUBLIC AFFAIRS DEPARTMENT, 301 N. OLIVE AVENUE, WEST PALM BEACH, FL 33401, BY E-MAIL AT RECORDSREQUEST@PBCGOV.ORG OR BY TELEPHONE AT 561-355-6680.

k. **INCORPORATION, PRECEDENCE, JURISDICTION**: This solicitation shall be included and incorporated in the final award. The order of contractual precedence shall be the solicitation document (original terms and conditions), response, and purchase order or term contract order. Any and all legal action necessary to enforce the award or the resultant contract shall be held in Palm Beach County and the contractual obligations shall be interpreted according to the laws of Florida.

l. **LEGAL EXPENSES**: The County shall not be liable to a vendor for any legal fees, court costs, or other legal expenses arising from the interpretation or enforcement of this contract, or from any other matter generated by or relating to this contract.

m. **NO THIRD PARTY BENEFICIARIES:** No provision of this Contract is intended to, or shall be construed to, create any third party beneficiary or to provide any rights to any person or entity not a party to this Contract, including but not limited to any citizen or employees of the County and/or vendor.

n. **SCRUTINIZED COMPANIES (WHEN CONTRACT VALUE IS GREATER THAN $1 MILLION):** As provided in F.S. 287.135, by entering into a Contract or performing any work in furtherance of this Sole Source solicitation, the VENDOR certifies that it, its affiliates, suppliers, subcontractors and consultants who will perform hereunder, have not been placed on the Scrutinized Companies With Activities in Sudan List or Scrutinized Companies With Activities in The Iran Petroleum Energy Sector List created pursuant to F.S. 215.473, or on the Scrutinized Companies that boycott Israel List, or is engaged in a boycott of Israel, pursuant to F.S. 215.4725, or is engaged in business operations in Cuba or Syria.

If the County determines, using credible information available to the public, that a false certification has been submitted by VENDOR, the resulting Contract from this Sole Source solicitation may be terminated and a civil penalty equal to the greater of $2 million or twice the amount of this Contract shall be imposed, pursuant to F.S. 287.135.

3. **SUBMISSION OF RESPONSE: Response must be submitted on the provided Sole Source "Response" Form.** Responses on vendor letterhead/quotation forms shall not be accepted. Responses must be signed by an agent of the company having authority to bind the company or firm. FAILURE TO SIGN THE RESPONSE FORM AT THE INDICATED PLACE(S) SHALL BE CAUSE FOR REJECTION OF THE RESPONSE. **Responses are to be submitted to the Palm Beach County Purchasing Department representative no later than the time indicated herein.**

a. **CERTIFICATIONS, LICENSES AND PERMITS**: Unless otherwise directed in the Special Conditions of this solicitation, vendor should include with its response a copy of all applicable Certificates of Competency issued by the State of Florida or the Palm Beach County Construction Industry Licensing Board in the name of the vendor shown on the response page. It shall also be the responsibility of the vendor to maintain a current Local Business Tax Receipt (Occupational License) for Palm Beach County and all permits required to complete this contractual service at no additional cost to Palm Beach County. A Palm Beach County Local Business Tax Receipt (Occupational License) is required unless specifically exempted by law. In lieu of a Palm Beach County Local Business Tax Receipt (Occupational License), the vendor should include the current Local Business Tax Receipt (Occupational License) issued to the vendor in the response. It is the responsibility of the vendor to ensure that all required certifications, licenses and permits are maintained in force and current throughout the term of the contract. Failure to meet this requirement shall be considered default of contract.

b. **PERFORMANCE DURING EMERGENCY**: By submitting a response vendor agrees and promises that, during and after a public emergency, disaster, hurricane, flood, or acts of God, Palm Beach

County shall be given "first priority" for all goods and services under this contract. Vendor agrees to provide all goods and services to Palm Beach County during and after the emergency at the terms, conditions, and prices as provided in this solicitation on a "first priority" basis. Vendor shall furnish a 24-hour phone number to the County in the event of such an emergency.

c. **SALES PROMOTIONS / PRICE REDUCTIONS:** Should sales promotions occur during the term of the contract that lower the price of the procured item, the vendor shall extend to the County the lower price offered by the manufacturer on any such promotional item. Further, any price decreases effectuated during the contract period by reason of market change or otherwise, shall be passed on to Palm Beach County. Additionally, anytime after award, the vendor may offer a reduced price which shall remain in effect for the duration of the contract.

d. **VENDOR'S NON-DISCRIMINATION POLICY:** The vendor shall perform the following and shall use the attached form "Non-Discrimination Policy" in order to do the same:

1. Submit to Palm Beach County a copy of its non-discrimination policy, which shall be consistent with the non-discrimination policy of Palm Beach County as set forth in Section 2.b. hereinabove; **OR**
2. In the event that the vendor **does not** have a written non-discrimination policy, the vendor shall sign and submit to Palm Beach County a statement affirming that its non-discrimination policy is in conformance with Palm Beach County's non- discrimination policy as provided in Palm Beach County Resolution R-2014-1421, as may be amended.

The vendor shall satisfy the requirements set forth in this Section 3.d. prior to execution of a contract with Palm Beach County and within a time frame specified by Palm Beach County (normally within 2 working days of request). The vendor's failure to satisfy the requirements set forth herein shall render its bid non-responsive. It is the responsibility of the successful bidder to maintain a non-discrimination policy that conforms with the County's policy as set forth in Section 2.b. hereinabove throughout the term of the contract. Failure to meet this requirement shall be considered a default of contract.

4. CONTRACT ADMINISTRATION

a. **DELIVERY AND ACCEPTANCE:** Deliveries of all items shall be made as soon as possible. Deliveries resulting from this solicitation are to be made during the normal working hours of the County. Time is of the essence and delivery dates must be met. The vendor shall be responsible for making any and all claims against carriers for missing or damaged items.

Delivered items shall not be considered "accepted" until an authorized agent for Palm Beach County has, by inspection or test of such items, determined that they appear to fully comply with specifications. The Board of County Commissioners may return, at the expense of the vendor and for full credit, any item(s) received which fail to meet the performance standards.

b. **FEDERAL AND STATE TAX:** Palm Beach County is exempt from Federal and State taxes. The authorized agent for Purchasing shall provide an exemption certificate to the vendor, upon request. Vendors are not exempted from paying sales tax to their suppliers for materials to fulfill contractual obligations with the County, nor are vendors authorized to use the County's Tax Exemption Number in securing such materials. Any sales tax paid by vendors to their suppliers for materials to fulfill contractual obligations with the County are not reimbursable by the County to the vendor.

c. **PAYMENT:** In order for Palm Beach County to make payment, the Vendor's Legal Name; Vendor's Address; and Vendor's TIN/FEIN Number on the Vendor's response must be exactly the same as it appears on the invoice and in Palm Beach County's VSS system which can be accessed at **https://pbcvssp.co.palm-beach.fl.us/webapp/vssp/AltSelfService**. Vendor **shall** send **ALL ORIGINAL** invoices to the following address and **may** send copies of invoices to the Palm Beach County Department requesting the goods/services. Invoices submitted on carbon paper shall not be accepted.

PALM BEACH COUNTY
FINANCE DEPT.
P.O. BOX 4036
WEST PALM BEACH, FL 33402-4036

Payment shall be made by the County after goods / services have been received, accepted and properly invoiced as indicated in the contract and / or order. Invoices must bear the order number. The Florida Prompt Payment Act is applicable to this solicitation. Interest penalties will only be paid in accordance with the Florida Prompt Payment Act, Florida Statute 218.70.

Note: Palm Beach County Vendors can now be paid by Credit Card via the County's voluntary Payment Manager Program. For vendors who don't have a merchant account, one is needed to utilize the Program. For vendors with a merchant account, you will need to enroll with the Palm Beach County Clerk & Comptroller's office. For information, contact the Palm Beach County Clerk & Comptroller at pbcpaymentmgr@mypalmbeachclerk.com or 561-355-7851.

d. **CHANGES:** The Director of Purchasing, Palm Beach County, by written notification to the vendor may make minor changes to the contract terms. Minor changes are defined as modifications which do not significantly alter the scope, nature, or price of the specified goods or services. Typical minor changes include, but are not limited to, place of delivery, method of shipment, minor revisions to customized work specifications, and administration of the contract. The vendor shall not amend any provision of the contract without written notification to the Director of Purchasing, and written acceptance from the Director of Purchasing or the Board of County Commissioners.

e. **DEFAULT:** The County may, by written notice of default to the vendor, terminate the contract in whole or in part if the vendor fails to satisfactorily perform any provisions of this solicitation or resultant contract, or fails to make progress so as to endanger performance under the terms and conditions of this solicitation or resultant contract, or provides repeated non-performance, or does not remedy such failure within a period of 10 days (or such period as the Director of Purchasing may authorize in writing) after receipt of notice from the Director of Purchasing specifying such failure. In the event the County terminates this contract in whole or in part because of default of the vendor, the County may procure goods and/or services similar to those terminated, and the vendor may be liable for any excess costs incurred due to this action.

If it is determined that the vendor was not in default or that the default was excusable (e.g., failure due to causes beyond the control of, or without the fault or negligence of, the vendor), the rights and obligations of the parties shall be those provided in "Termination for Convenience" as stated below.

f. **TERMINATION FOR CONVENIENCE:** The Director of Purchasing may, whenever the interests of the County so require, terminate the contract, in whole or in part, for the convenience of the County. The Director of Purchasing shall give five (5) days prior written notice of termination to the vendor, specifying the portions of the contract to be terminated and when the termination is to become effective. If only portions of the contract are terminated, the vendor has the right to withdraw, without adverse action, from the entire contract.

Unless directed differently in the notice of termination, the vendor shall incur no further obligations in connection with the terminated work, and shall stop work to the extent specified and on the date given in the notice of termination. Additionally, unless directed differently, the vendor shall terminate outstanding orders and/or subcontracts related to the terminated work.

g. **REMEDIES:** No remedy herein conferred upon any party is intended to be exclusive of any other remedy, and each and every such remedy shall be cumulative and shall be in addition to every other remedy given hereunder now or hereafter existing at law, or in equity, by statute or otherwise. No single or partial exercise by any party of any right, power, or remedy hereunder shall preclude any other or further exercise thereof.

h. **RENEWAL OPTION**: The contract shall be for twelve (12) months with the option to renew for four (4) additional twelve (12) month periods. The option for renewal shall only be exercised upon verification of continued sole source status and upon mutual written agreement with all original terms and conditions adhered to with no deviations.

At the beginning of each of the four (4) twelve (12) month option periods, the County may consider a single annual price adjustment to the unit price(s) based on new pricing from the vendor.

Any renewal including subsequent price adjustments shall be subject to the appropriation of funds by the Board of County Commissioners.

5. **PALM BEACH COUNTY OFFICE OF THE INSPECTOR GENERAL AUDIT REQUIREMENTS**:

Pursuant to Palm Beach County Code, Section 2-421 – 2-440, as amended, Palm Beach County's Office of Inspector General is authorized to review past, present and proposed County contracts, transactions, accounts, and records. The Inspector General's authority includes, but is not limited to, the power to audit, investigate, monitor, and inspect the activities of entities contracting with the County, or anyone acting on their behalf, in order to ensure compliance with contract requirements and to detect corruption and fraud. Failure to cooperate with the Inspector General or interfering with or impeding any investigation shall be a violation of Palm Beach County Code, Section 2-421 – 2-440, and punished pursuant to Section 125.69, Florida Statutes, in the same manner as a second degree misdemeanor.

THIS IS THE END OF "GENERAL CONDITIONS."

SPECIAL CONDITIONS

6. GENERAL/SPECIAL CONDITION PRECEDENCE

In the event of conflict between General Conditions and Special Conditions, the provisions of the Special Conditions shall have precedence.

7. CRIMINAL HISTORY RECORDS CHECK

This solicitation includes sites and/or buildings which have been designated as either "critical facilities" or "criminal justice information facilities" pursuant to Palm Beach County Code Section 2-371 through 2-377, the Palm Beach County Criminal History Records Check Ordinance ("Ordinance"), and Resolution R-2003-1274, as amended. County staff representing the User County Department will contact the vendor and provide specific instructions for meeting the requirements of this Ordinance. This provision applies to and must be adhered to by all vendors, contractors, and subcontractors of contractors, including repair persons and delivery persons, who are unescorted when entering critical facilities or criminal justice information facilities.

Individuals passing the background check will be issued a badge. Vendor shall make every effort to collect the badges of its employees and its subcontractors' employees upon conclusion of the contract work and return them to the County. If the vendor or its subcontractor terminates an employee who has been issued a badge, the vendor must notify the County within two (2) hours. At the time of termination, the vendor shall retrieve the badge and return it to the County in a timely manner. The County reserves the right to suspend any vendor that; 1) does not comply with the requirements of County Code Section 2-371 through 2-377 as amended; 2) does not contact the County regarding a terminated vendor employee or subcontractor employee within the stated time; or 3) fails to make a good faith effort in attempting to comply with the badge retrieval policy.

8. METHOD OF ORDERING (TERM CONTRACT)

A contract shall be issued for a term of twelve (12) months or until the estimated amount is expended, at the discretion of the County. The County will order on an "as needed" basis.

9. F.O.B. POINT

The F.O.B. point shall be destination. Exact delivery point will be indicated on the term contract delivery order (DO). Responses showing other than F.O.B. destination shall be rejected. Vendor retains title and assumes all transportation charges, responsibility, liability and risk in transit, and shall be responsible for the filing of claims for loss or damages.

10. DELIVERY

Delivery shall be required within fifteen (15) business days after receipt of term contract delivery order (DO) unless a modified delivery date has been requested by the vendor and approved in writing by the Purchasing Director or his/her designee. Failure of the vendor to perform to the delivery requirement is sufficient cause for default and termination of the contract.

11. AS SPECIFIED

A term contract delivery order (DO) will be issued to the vendor with the understanding that all items delivered must meet the specifications herein. Palm Beach County will return, at the expense of the vendor, items not delivered as specified.

12. ESTIMATED EXPENDITURES

The anticipated term of the contract to be awarded as a result of this solicitation is for twelve (12) months. The anticipated value during the contract term is $330,975. Palm Beach County reserves the right to increase or decrease the anticipated value as necessary to meet actual requirements, and to re-solicit for the contracted goods and services at any time after the anticipated value of this contract has been reached, notwithstanding that the anticipated term has not been completed.

13. WORK SITE SAFETY/SECURITY

The vendor shall at all times guard against damage or loss to the property of Palm Beach County, the vendor's own property, and/or that of other contractors, and shall be held responsible for replacing or repairing any such loss or damage. When applicable, the vendor shall provide fences, signs, barricades, flashing lights, etc., at no additional cost to the County, necessary to protect and secure the work site(s) and insure that all County, State of Florida, OSHA, and other applicable safety regulations are met. Additionally, vendor shall provide for the prompt removal of all debris from Palm Beach County

property. Palm Beach County may withhold payment or make such deductions as deemed necessary to ensure reimbursement or replacement for loss or damage to property through negligence of the vendor or its agents.

14. INSURANCE REQUIRED

It shall be the responsibility of the vendor to provide evidence of the following minimum amounts of insurance coverage to Palm Beach County, c/o Insurance Tracking Services, Inc. (ITS), P.O. Box 20270, Long Beach, CA 90801. Subsequently, the vendor shall, during the term of the Contract, and prior to each renewal thereof, provide evidence of insurability to ITS at pbc@instracking.com or fax (562) 435-2999, which is Palm Beach County's insurance management system, prior to the expiration date of each and every insurance required herein.

Commercial General Liability Insurance. Vendor shall maintain Commercial General Liability Insurance, or similar form, at a limit of liability not less than $500,000 Each Occurrence for Bodily Injury, Personal Injury and Property Damage Liability. Coverage shall include Premises and/or Operations, Independent Contractors, Products and/or Completed Operations, Personal Injury/Advertising Liability, Contractual Liability and Broad Form Property Damage coverages. Coverage for the hazards of explosion, collapse and underground property damage (X-C-U) must also be included when applicable to the work to be performed. **This coverage shall be endorsed to include Palm Beach County as an Additional Insured.**

Business Auto Liability Insurance. Vendor shall maintain Business Auto Liability Insurance at a limit of liability not less than $500,000 Combined Single Limit Each Accident for all owned, non-owned, and hired automobiles. (In this context, the term "Autos" is interpreted to mean any land motor vehicle, trailer or semi trailer designed for travel on public roads.) In the event vendor neither owns nor leases automobiles, the Business Auto Liability requirement shall be amended allowing vendor to maintain only Hired & Non-Owned auto Liability and shall provide either an affidavit or a letter on company letterhead signed by the vendor indicating either the vendor does not own any vehicles, and if vehicles are acquired throughout the term of the contract, vendor agrees to purchase "Owned Auto" coverage as of the date of acquisition. This amended requirement may be satisfied by way of endorsement to the Commercial General Liability, or separate Business Auto coverage form.

Workers' Compensation and Employer's Liability Insurance. Vendor shall maintain Workers' Compensation & Employer's Liability Insurance in accordance with Florida Statute Chapter 440.

A signed Certificate or Certificates of Insurance, evidencing that required insurance coverages have been procured by the vendor in the types and amounts required hereunder shall be transmitted to the County via the Insurance Company/Agent within a time frame specified by the County (normally within 2 working days of request). Failure to provide required insurance shall render your response non responsive.

Except as to Business Auto, Workers' Compensation and Employer's Liability (and Professional liability, when applicable), said Certificate(s) shall clearly confirm that coverage required by the contract has been endorsed to include Palm Beach County as an Additional Insured.

Said Certificate(s) of Insurance shall, to the extent allowable by the insurer, include a minimum thirty (30) day endeavor to notify due to cancellation (10 days for nonpayment of premium) or non-renewal of coverage. It is the responsibility of the vendor to ensure that all required insurance coverages are maintained in force throughout the term of the contract. Failure to maintain the required insurance shall be considered default of contract.

All insurance must be acceptable to and approved by County as to form, types of coverage and acceptability of the insurers providing coverage.

Vendor shall agree that all insurance coverage required herein shall be provided by vendor to County on a primary basis.

SPECIFICATIONS
SOLE SOURCE SOLICITATION #SS555442/KM

IXOM WATERCARE, INC. MIEX DOC RESIN,
PURCHASE AND DELIVERY OF, TERM CONTRACT

PURPOSE AND INTENT

The sole purpose and intent of this solicitation is to secure firm, fixed pricing and establish a term contract for the purchase and delivery of Ixom Watercare, Inc. Miex DOC Resin for the County.

CURRENT DELIVERY LOCATION

Palm Beach County Water Utilities Department WTP #2
2956 Pinehurst Drive
West Palm Beach, FL 33467

Palm Beach County reserves the right to add or delete delivery locations during the term of this contract, including locations within the Glades area, at its sole discretion.

COUNTY'S RESPONSIBILITIES

The County shall:

- Order services on an as needed basis.
- Be responsible for unloading of chemical deliveries.
- Operate plant according to plant operating manual provided by vendor and to maintain records of operating history and conditions during the term of the contract.
- Provide access to relevant records and calculations on request.

VENDOR'S RESPONSIBILITIES

The vendor shall:

- Provide chemical in 1000 Liter Bulk packs (Totes) containing 900L of settled resin.

COUNTY ACCEPTANCE

Payment shall be rendered ONLY upon the County's satisfaction acceptance of item(s) delivered. Acceptance is defined as meeting all the terms, conditions and specifications as stated herein.

PAYMENT

Payment is based upon the pricing offered on the response page and no additional compensation shall be offered or paid. Price shall include, but not be limited to, all supervision, labor, equipment, materials, tools, machinery, transportation and other facilities and services necessary to fully and completely provide the item(s) as specified herein.

SOLE SOURCE RESPONSE PAGE
SOLICITATION #SS555442/KM

IXOM WATERCARE, INC. MIEX DOC RESIN,
PURCHASE AND DELIVERY OF, TERM CONTRACT

ITEM NO.	DESCRIPTION	ESTIMATED 12 MONTH QUANTITY	UNIT	UNIT PRICE	TOTAL OFFER
1.	IXOM WATERCARE, INC. MIEX DOC RESIN AS SPECIFIED HEREIN	25	TOTE	$ 13,239	$ 330,975

Acknowledge Criminal History Records Check requirement, per Term #7? YES/INITIAL RAC

Acknowledge Insurance requirements, per Term #14? YES/INITIAL RAC

Acknowledge Non-Discrimination Policy Form is included as specified herein? YES/INITIAL RAC

*** PLEASE AFFIX SIGNATURE WHERE INDICATED**

By signature on this document, vendor acknowledges and agrees that its offer includes and accepts all terms, conditions, and specifications of the County's solicitation, without exception, change or alteration of any kind, except as may have been amended by the County prior to the due date of this solicitation.

FIRM NAME: **(Enter the entire legal name of the bidding entity)** IXOM WATERCARE, INC.

DATE: 8/25/2017

* **SIGNATURE**: Randy A Cable

PRINT NAME: Randy A. CABLE

PRINT TITLE: Global Head MIEX

ADDRESS: 8150 S. AKRON ST. SUITE 401

CITY / STATE: CENTENNIAL, CO ZIP CODE: 80112

TELEPHONE # (303) 768 7340

EMERGENCY # (303) 768 7345
(as required herein)

TOLL FREE # (877) 414 6349

E-MAIL: miex@ixom.com

FAX #: (303) 768 7373

APPLICABLE LICENSE(S)
NUMBER # _____ TYPE: _____

FEDERAL ID # 84-1574849

NON-DISCRIMINATION POLICY FORM
SOLE SOURCE SOLICITATION #SS555442/KM

Pursuant to Palm Beach County Resolution R-2014-1421 ("Resolution"), as may be amended, it is the policy of the Board of County Commissioners of Palm Beach County ("County") that the County **"shall not conduct business with nor appropriate any funds for any organization or entity that practices discrimination on the basis of race, color, national origin, religion, ancestry, sex, age, familial status, marital status, sexual orientation, gender identity and expression, disability, or genetic information."**

This Resolution requires that each organization or entity doing business with the County is "required to submit a copy of its non-discrimination policy, which shall be consistent with the non-discrimination policy stated above, **prior** to entering into any contract with the County." In the event an organization or entity does *not* have a written non-discrimination policy, such organization or entity "shall be required to sign a statement affirming their non-discrimination policy is in conformance with this resolution."

Check one:

(__) Organization/Entity hereby attaches its non-discrimination policy, which is consistent with the County's Non-Discrimination Policy and Resolution.

OR

(✓) Organization/Entity hereby acknowledges that it **does not** have a written non-discrimination policy and hereby **affirms by signing below** that its non-discrimination policy is in conformance with the County's Non-Discrimination Policy and Resolution.

ORGANIZATION / ENTITY INFORMATION:

Ixom Watercare Inc.
Name of Organization or Entity

Signature

Randy A. CABLE
Name (type or print)

Global Head, MIEX
Title

Rev. 06.13.2017

Exceptions to General Conditions:

4. e. **DEFAULT**: "In the event the County terminates this contract in whole or in part because of default of the vendor, The County may procure goods and/or services similar to those terminated" please strike the remainder of the sentence. Ixom cannot be liable for what another vendor may charge for their products.

IXOM Amendments to PBC General and Special Conditions:

1. **RETURNS:**
   Returned Goods shall not be accepted unless Buyer obtains prior written approval and transportation instructions from Seller. All Goods returned to Seller must be in full containers or cases, unopened and in the same condition as when delivered. If a return is approved by Seller, Goods may be returned for exchange or credit only. Seller shall give no cash refunds for returned Goods. Approved returned Goods are subject to a restocking charge of 15% of the invoiced value of such Goods and Buyer shall pay all transportation charges.

2. **LIMITED WARRANTY:**

a) Subject to Section 2(e) and Section 3 below, Seller warrants title and that the Goods shall conform to Seller's standard sales specifications in effect at the time of manufacture or the specifications agreed by the parties in writing and contained or referenced in the Order.
b) Buyer is solely responsible for determining that the Goods and their specification and scope are appropriate for Buyer's intended use. Any advice or recommendations by Seller with respect to the Goods or the use of the Goods are provided in good faith based on tests or experience believed to be reliable but such advice or recommendations are not warranted. Buyer agrees that it is responsible for ensuring that Goods that comply with the warranties in Section 2(a) are fit and suitable for its purposes, requirements, processes, plant and equipment.
c) To the maximum extent permitted by law, Seller makes no other representation or warranty of any kind, and hereby expressly disclaims all other representations or warranties, express, implied, statutory or arising from a course of dealing, usage of the trade or otherwise, including without limitation any representation or warranty as to merchantability, fitness for a particular purpose, or any other matter with respect to the goods, whether used alone or in combination with any other goods, substances processes or materials or services.
d) In the event the exclusion of some or all of such warranties under section 2(c) for certain goods subject to this contract would be illegal, any additional warranty would be limited to the warranty required by applicable law and to the extent permitted by such law, would be subject to section 2(e) and section 3, and is conditioned upon use in accordance with label directions under normal conditions reasonably foreseeable to seller with buyer assuming the risk of any use contrary to label directions, under abnormal conditions or under conditions not reasonably foreseeable to seller.
e) Seller's sole liability and Buyer's sole remedy for breach of warranty are specifically limited to the repair of the goods (or re-performance of services when applicable) or the cost thereof where Seller fails to perform such repair necessitated by a breach of warranty, and such liability and remedy are exclusive of all other liabilities and remedies. Should these remedies be found inadequate or to have failed of their essential purpose for any reason whatsoever, Buyer agrees that the return of the amount paid by buyer to seller for

the purchase of the goods which fail to conform with the warranties set forth in section 3 shall be considered a fair and adequate remedy and prevent the remedies from failing of their essential purpose.

3. **LIMITATIONS OF LIABILITY:**

(a) The liability of Seller and its affiliates to Buyer under and in connection with the Contract is limited to the price allocable to the Goods giving rise to the claim and in no event shall the cumulative liability of Seller howsoever arising, whether under warranty, contract, tort, negligence, strict liability, indemnification, defense or any other cause or combination of causes whatsoever, exceed the total payment received from Buyer under the Contract in connection with the Goods. (b) To the extent permitted by law and not withstanding any provision to the contrary in the contract, Seller shall not be liable for special, indirect, incidental, or consequential damages, including without limitation, and loss of profits; loss of business revenues, loss of capital, failure to realize expected profits or savings, overhead costs, loss by reason of service interruption or increased expense of operation, loss of goodwill, loss of reputation, loss of value in any intellectual property, damages or liquidated sums payable pursuant to other agreements or to other third parties, other economic losses, whether arising under warranty, contract; negligence (including negligent misrepresentation) or other tort, strict liability, breach of statue, indemnification, or any other cause or combination of causes, including any theories of concurrent liability arising from a duty of care by operation of law or otherwise. This limitation of liability set forth in this Section 3 shall not apply to third-party claims of death or personal injury.

4. **SAFE STORAGE HANDLING AND USE: ASSUMPTION OF RISK:**

Buyer acknowledges that it is familiar with the risks associated with the storage, handling and use of Goods and any waste resulting therefrom. Accordingly and notwithstanding anything to the contrary set forth in the Contract, Buyer covenants and warrants and shall ensure that (i) that it and its employees, agents, carriers and customers are familiar with and adhere to all necessary and appropriate precautions and safety measures to safely store, handle or use the Goods; (ii) it and its employees, agents, carriers and customers shall comply with all applicable Laws, including without limitation, environmental laws and regulations pertaining to the storage, handling and use of Goods; (iii) shall obtain and comply with all required permits and licenses. Seller takes no responsibility for, and Buyer assumes all risks associated with waste characterization, regulatory status and chemical composition of any product, process, material, waste or substance into which the Goods are incorporated or applied. Without limiting the foregoing, Buyer shall further ensure that all storage tanks, vessels, and pipes, hoses and valves and other components used by Buyer or its employees, agents, carriers and customers to store, handle and transfer Goods which are bulk chemicals are properly installed and maintained to prevent injury, death or loss of containment during storage, handling and transfer of such Goods. If Buyer resells or distributes Goods to third parties, Buyer assumes responsibility for ensuring that it provides detailed instructions to such third parties regarding safe storage, handling and use of those Goods and any Storage Items or packaging in which such Goods are stored. To the maximum extent allowed by law, Buyer assumes all risks and liability whatsoever for all injuries, losses and damages to persons or property or otherwise as a result of (i) Buyer's, its employees', agents', carriers' or customers' handling, possession, further processing, storage, use treatment, transportation, disposal, sale or other use or disposition of the

Goods, whether used alone or in combination with other products, materials, substances or wastes, (ii) Buyer's, its employees', agents', carriers' or customers' violation or alleged violation of any Law, or (iii) Buyer's breach of any of its obligations set forth herein.

5. **FORCE MAJEURE:**

Shipments or deliveries may be totally or partially suspended or delayed by Seller during any period in which the Seller may be prevented or hindered from manufacture, delivery or supply through any circumstances outside Seller's reasonable control or where such manufacture, delivery or supply is rendered materially more expensive by such circumstances. Circumstances beyond Seller's reasonable control shall include, without limitation, strikes, lockouts or other labor difficulty; acts of carriers; acts of God; acts of civil or military authorities; acts or omissions of Buyer; war; riot; fire; explosion; acts of terrorism; flood; any inability to obtain or lack of any necessary or adequate materials, inputs, fuel, power, labor, equipment, containers, facilities or services on usual terms; power or water shortage; accidents or breakdowns or failures of plant or machinery or apparatus; delays, congestions or blockages at sea ports or transport depots or software, hardware or communication network; changes in applicable Laws; or any other event, whether or not enumerated herein, beyond the reasonable control of Seller that makes impractical the manufacture, transportation or shipment of the Goods or of a material or other resource upon which the manufacture, transportation or shipment of the Goods depends. Seller shall not incur any liability to Buyer in respect of such suspension.

6. **INTELLECTUAL PROPERTY:**

Seller is the sole and exclusive owner of the Intellectual Property in the Goods and processes incorporated in such Goods, and the rights attached to that Intellectual Property. Nothing herein grants to Buyer any right, title or interest in or to any of the Intellectual Property in the Goods. Buyer shall not claim to have acquired any right, title or interest to the Intellectual Property in the Goods by virtue of purchasing Goods sold hereunder. Buyer shall not deconstruct, reverse compile or reverse engineer the Goods in any way for the purpose of deciphering or replicating the chemical composition of the Goods. As used herein, "Intellectual Property" means any intellectual or industrial property right anywhere in the world including, without limitation, any patent, patent application, utility model, copyright (including copyright in manuals, databases, and promotional materials), registered design and other design rights, unpatented secrets and innovations, confidential information, and any other rights that may subsist anywhere in the world in improvements, inventions and other manufacturing processes or technical and other information of Seller. Buyer shall not resell, distribute or supply the Goods to any third party for any reason without Seller's prior written consent.

Purchasing Department
50 South Military Trail, Suite 110
West Palm Beach, FL 33415-3199
(561) 616-6800
FAX: (561) 616-6811
www.pbcgov.com/purchasing

Palm Beach County Board of County Commissioners

Paulette Burdick, Mayor
Melissa McKinlay, Vice Mayor
Hal R. Valeche
Dave Kerner
Steven L. Abrams
Mary Lou Berger
Mack Bernard

County Administrator

Verdenia C. Baker

Form L

October 3, 2017

Ixom Watercare, Inc.
Randy A. Cable, Global Head Miex
8150 S Akron Street, Suite 401
Centennial, CO 80112

TERM CONTRACT #SS555442

Dear Vendor:

This is to inform you that Palm Beach County Board of County Commissioners ("County") is entering into a Term Contract with your company for IXOM WATERCARE, INC. MIEX DOC RESIN, PURCHASE AND DELIVERY OF based on:

[√] SOLE SOURCE SOLICITATION #SS555442/KM
Vendor shall notify Purchasing immediately if the sole source status changes.

[ ] OTHER: _____

The term of this contract is 10/03/17 through 10/02/18, and has an estimated dollar value of $330,975, inclusive of all vendors awarded.

If applicable, Vendor shall maintain all insurance coverage(s) throughout the entire term of the contract, including any renewals or extensions thereof.

County User Departments will issue individual "Delivery Orders" against this contract as your authorization to deliver. The original invoice must be sent to the address on the Delivery Order ("DO") and must reference the DO number (e.g., DO 680 XY030305000000001111). A copy of the invoice may be sent to the County User Department. Invoices submitted on carbon paper shall not be accepted. In order for the County to make payment, the Vendor's Legal Name; Vendor's Address; and Vendor's TIN/FEIN Number on the Vendor's bid/quote/response must be exactly the same as it appears on the invoice and in the County's VSS system that can be accessed at https://pbcvssp.co.palm-beach.fl.us/webapp/vssp/AltSelfService. Failure to comply with the foregoing may result in a delay in processing payment.

If you have any questions, please contact Kristen A. Monnett, Senior Buyer at kmonnett@pbcgov.org.

Sincerely,

Kathleen M. Scarlett
Director

c: Vernetha Green, Water Utilities
File

"An Equal Opportunity Affirmative Action Employer"

printed on recycled paper

INTER-OFFICE COMMUNICATION
PALM BEACH COUNTY

DATE: October 14, 2015

TO: Kathleen M. Scarlett
Director

THRU: Tammy Smith
Purchasing Manager

FROM: Kristen A. Monnett
Senior Buyer

RE: SOLE SOURCE JUSTIFICATION (EXTENDED TERM)

The user department has stated that IXOM WATERCARE, INC. PRODUCTS, OEM PARTS, MAINTENANCE, REPAIR / REPLACEMENT SERVICES, FIELD SERVICES AND TECHNICAL SUPPORT is the ONLY product / source of service that will meet the County's need for EQUIPMENT USED WITHIN THE POTABLE WATER PROCESS SYSTEM. Based on staff's knowledge of the marketplace, we believe this to be an accurate assessment.

It has also been determined and attested to by ELLEN RUE GABY, VICE PRESIDENT SALES, IXOM WATERCARE, INC. (manufacturer) they are the ONLY source of supply for the above referenced product / service (see attached).

We anticipate that the circumstances justified by this sole source request will not change over the next 60 months (maximum 60 months).

PURCHASING APPROVAL:

Based on the information provided to me, including the manufacturer's certification that they or their representative are the sole provider of this good or service, the user's certification that this is the only good or service which will suffice their needs, and a justifiable expectation that these conditions will not change in the foreseeable future, I am hereby approving sole source acquisition of the subject good or service for a period not to exceed sixty months. The user department is charged with monitoring the marketplace and, if the above described sole source conditions change, discontinue use of this sole source justification and procure the goods or services competitively.

Kathleen M. Scarlett, Director
Purchasing Department

Date: 10/15/15

c: Vernetha Green, Water Utilities

Water Utilities Department
Administration

P. O. Box 16097

West Palm Beach, FL 33416-6097

(561) 493-6000

Fax: (561) 493-6008

www.pbcwater.com

Palm Beach County
Board of County
Commissioners

Shelley Vana, Mayor

Mary Lou Berger, Vice Mayor

Hal R. Valeche

Paulette Burdick

Steven L. Abrams

Melissa McKinlay

Priscilla A. Taylor

County Administrator

Robert Weisman

"An Equal Opportunity Affirmative Action Employer"

INTEROFFICE MEMORANDUM

DATE: October 1, 2015

TO: Kathy Scarlett, Purchasing Director

FROM: Jim Stiles, Water Utilities Director

RE: **Sole Source – IXOM WATERCARE, INC.**

The Water Utilities Department requests an extended sole source procurement from IXOM WATERCARE, INC. for the purchase of manufactured brand products, OEM repair parts, repairs, and maintenance, based on the following sole source justification:

Based upon our expertise and a comprehensive search of the market place, the purchase of manufactured brand products, OEM repair parts, repairs, and maintenance offered by IXOM WATERCARE, INC., is required to be used in conjunction with existing equipment. IXOM WATERCARE, INC. provides the following unique characteristic that we require and, to the best of our knowledge, no other manufacturer can duplicate.

> IXOM WATERCARE, INC. is the sole manufacturer and provider of its brand products, repairs, maintenance, and OEM replacement parts, which are the only parts and components compatible with the existing Ixom equipment, including the MIEX equipment system, used within our potable water process system to remove target contaminants; as required by Water Utilities.

For the above documented reasons and the attached sole source supporting documentation from the manufacturer, I request that the purchase be considered for approval as sole source.

October 1, 2015

Palm Beach County
Water Utilities Department
8100 Forest Hill Blvd.
West Palm Beach, FL 33416

Attn: Ms. Vernetha Green

Subject: Sole Source Representative

Dear Ms. Green:

Ixom Watercare Inc. is the sole manufacturer of its products. Ixom Watercare, Inc. is the manufacturer and the exclusive representative for Ixom Watercare, Inc. within the state of Florida for the purchase of new products, OEM repair parts, repairs, and maintenance.

No other representative can sell products, repair/replacement parts, maintenance, repair/replacement services, field services and technical support for Ixom Watercare, Inc.

Your contact for Ixom Watercare, Inc. is:

Ellen Gaby / Vice President Sales
33101 East Quincy Avenue
Watkins, Colorado 80137

If you have questions regarding this issue, please contact me (Ellen Gaby at Ixom Watercare, Inc.) at 919-482-5422.

Sincerely,

Ellen Rue Gaby
Vice President Sales
Ixom Watercare, Inc.

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED ORDINANCE NO. 17-030 - SECOND READING - Approve 711 North Federal Highway Abandonment (ABAN 17-007) request allowing the abandonment of a portion of the alley immediately west of 711 North Federal Highway, and immediately north of NE 6th Avenue. Applicant: Michael Simon, Executive Director of the Boynton Beach Community Redevelopment Agency (CRA).

EXPLANATION OF REQUEST:
Michael Simon, Executive Director of the Boynton Beach Community Redevelopment Agency (CRA), is requesting to abandon a portion of the 20-foot wide alley right-of-way (ABAN 17-007) immediately west of 711 North Federal Highway, and immediately north of NE 6th Avenue. The CRA is requesting the abandonment as owner of the abutting 711 N. Federal Highway, in preparation for the sale of the property to the owner of the boat dealership that operates immediately to the north (South Florida Master Craft), to facilitate the expansion of their business venture. Similar segments of the same alley have previously been abandoned, which abutted other properties to the north of the subject parcel; at 725 N. Federal Highway (South Florida Master Craft) and 805 N. Federal Highway (Miami Aqua Culture), in 2009 and 2005, respectively.

Staff has determined that the requested abandonment would not adversely impact traffic or other City functions, and would not adversely impact other adjacent property owners. Based on the above-analysis, staff has determined that the subject alley no longer serves a public purpose, and therefore recommends APPROVAL of the applicant's request, subject to the attached conditions. The Planning & Development Board reviewed this request at their September 26, 2017 meeting and recommends approval.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? N/A

FISCAL IMPACT: Additional tax revenue from property being placed on the tax roll.

ALTERNATIVES: None recommended.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION: N/A

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION: N/A

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Ordinance	Ordinance abandoning a portion of 20 foot wide alley regarding 711 North Federal Highway
Staff Report	Staff Report
Location Map	Location Map
Drawings	Legal Description & Sketch
Conditions of Approval	Conditions of Approval
Development Order	Development Order

ORDINANCE NO. 17-

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, AUTHORIZING ABANDONMENT OF A PORTION OF THE 20-FOOT WIDE ALLEY RIGHT OF WAY IMMEDIATELY WEST OF 711 NORTH FEDERAL HIGHWAY AND IMMEDIATELY NORTH OF NORTHEAST 6TH AVENUE, MORE PARTICULARLY DESCRIBED HEREIN, SUBJECT TO STAFF COMMENTS; AUTHORIZING THE CITY MANAGER TO EXECUTE A DISCLAIMER, WHICH SHALL BE RECORDED WITH THIS ORDINANCE IN THE PUBLIC RECORDS OF PALM BEACH COUNTY, FLORIDA; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the Boynton Beach Community Redevelopment Agency, Applicant is requesting to abandon a portion of the 20-foot wide alley right-of-way lying between 711 North Federal Highway and the FEC Railroad right of way, subject to staff comments; and

WHEREAS, comments have been solicited from the appropriate City Departments, and public hearings have been previously held before the City's Planning & Development Board, and the City Commission on the proposed abandonments; and

WHEREAS, staff has determined that the subject portion of the 20-foot wide alley right of way requested to be abandoned does not adversely impact traffic, or affect other adjacent property owners and therefore no longer serves a public purpose, and the City Commission adopts that finding.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA THAT:

Section 1. The foregoing Whereas clauses are true and correct and incorporated herein by this reference.

Section 2. The City Commission of the City of Boynton Beach, Florida, does hereby abandon a portion of the 20-foot wide alley right-of-way lying between 711 North Federal Highway and the FEC Railroad right of way, subject to staff comments. The property being abandoned is more particularly described as follows:

A portion of the 20 foot alley lying parallel with and contiguous to the east right-of-way line of the Florida East Coast Railroad and the west line of Lots 19 through 22, PENCE & KING ADDITION TO THE TOWN OF BOYNTON, according to the plat thereof, as recorded in Plat Book 1, Page

50, of the Public Records of Palm Beach County, Florida, as decribed as follows:

That portion of a 20 foot alley, bounded on the east by the west line of Lots 19 through 22, bounded on the west by the east right-of-way line of the Florida East Coast Railroad, bounded on the north by the westerly extension of the south line of the north 5.00 feet of Lot 19, and bounded on the south by the westerly extension of the north line of the south 21.5 feet of Lot 22, all of PENCE & KING ADDITION TO THE TOWN OF BOYNTON, according to the plat thereof as recorded in Plat Book 1, Page 50, of the Public Records of Palm Beach County, Florida.

Section 3. The City Manager is hereby authorized and directed to execute the attached Disclaimer and cause the same to be filed, with this Ordinance, in the Public Records of Palm Beach County, Florida.

Section 4. This Ordinance shall take effect immediately upon passage.

FIRST READING this ____ day of _____, 2017.

SECOND, FINAL READING AND PASSAGE this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

DISCLAIMER

KNOW ALL MEN BY THESE PRESENTS that The City Commission of the City of Boynton Beach, Florida, does hereby abandon a portion of the 20-foot wide alley right-of-way lying between 711 North Federal Highway and the FEC Railroad right of way, subject to staff comments. The property being abandoned is more particularly described as follows:

A portion of the 20 foot alley lying parallel with and contiguous to the east right-of-way line of the Florida East Coast Railroad and the west line of Lots 19 through 22, PENCE & KING ADDITION TO THE TOWN OF BOYNTON, according to the plat thereof, as recorded in Plat Book 1, Page 50, of the Public Records of Palm Beach County, Florida, as decribed as follows:

That portion of a 20 foot alley, bounded on the east by the west line of Lots 19 through 22, bounded on the west by the east right-of-way line of the Florida East Coast Railroad, bounded on the north by the westerly extension of the south line of the north 5.00 feet of Lot 19, and bounded on the south by the westerly extension of the north line of the south 21.5 feet of Lot 22, all of PENCE & KING ADDITION TO THE TOWN OF BOYNTON, according to the plat thereof as recorded in Plat Book 1, Page 50, of the Public Records of Palm Beach County, Florida.

IN WITNESS WHEREOF, the duly authorized officers of the City of Boynton Beach, Florida, have hereunto set their hands and affixed the seal of the City this ____ day of _____, 2017.

ATTEST: CITY OF BOYNTON BEACH, FLORIDA

_____ _____

Judith A. Pyle, CMC Lori LaVerriere, City Manager
City Clerk

STATE OF FLORIDA)
)ss:
COUNTY OF PALM BEACH)

BEFORE ME, the undersigned authority, personally appeared Lori LaVerriere and Judith A. Pyle, CMC, City Manager and City Clerk respectively, of the City of Boynton Beach, Florida, known to me to be the persons described in and who executed the foregoing instrument, and acknowledged the execution thereof to be their free hand and deed as such officers, for the uses and purposes mentioned therein; that they affixed thereto

the official seal of said corporation; and that said instrument is the act and deed of said corporation.

WITNESS my hand and official seal in the said State and County this _____ day of _____, 2017.

_____
NOTARY PUBLIC, State of Florida
My Commission Expires:

DEVELOPMENT DEPARTMENT
PLANNING AND ZONING DIVISION
MEMORANDUM NO. PZ 17-049

TO: Chair and Members
Planning & Development Board

THRU: Michael W. Rumpf
Planning and Zoning Director

FROM: Ed Breese
Principal Planner

DATE: August 22, 2017

SUBJECT: Request for abandonment of a portion of the alley immediately west of 711 North Federal Highway, and immediately north of NE 6th Avenue (ABAN 17-007).

NATURE OF REQUEST

Michael Simon, Executive Director of the Boynton Beach Community Redevelopment Agency (CRA), is requesting to abandon a portion of the 20-foot wide alley right-of-way (ABAN 17-007) immediately west of 711 North Federal Highway, and immediately north of NE 6th Avenue (see Exhibit "A" – Location Map). The CRA is requesting the abandonment as owner of the abutting 711 N. Federal Highway, in preparation of the property for purchase by the owner of the boat dealership immediately to the north (South Florida Master Craft), to facilitate the expansion of their business venture.

More specifically, the applicant is requesting to abandon that portion of the 20-foot wide alley right-of-way lying between 711 N. Federal Highway and the FEC Railroad right-of-way (as depicted and described in Exhibit "B" – Legal Description & Sketch).

The following is a description of the zoning districts and land uses of the properties that surround the subject request:

North: Developed commercial property (South Florida Master Craft) zoned C-4 (General Commercial);

South: Right-of-way for NE 6th Avenue and farther south is developed commercial property (Goodyear Tire Store) zoned CBD (Central Business District);

East: Currently unoccupied commercial property (formerly Amerigas Propane) zoned C-4 (General Commercial) and father east right-of-way for Federal Highway; and

West: Right-of-way for the FEC Railroad, then farther west right-of-way for N. Railroad Avenue.

BACKGROUND

The applicant is requesting to abandon a portion of the unimproved alley immediately east of the FEC Railroad right-of-way. Similar segments of the same alley have previously been abandoned, which abutted properties immediately to the north of the subject parcel; at 725 N. Federal Highway (South Florida Master Craft) and 805 N. Federal Highway (Miami Aqua Culture), in 2009 and 2005, respectively.

The CRA acquired the property to spur redevelopment of the longtime propane gas site and received responses from several businesses looking to redevelop the site. The property owner immediately to the north, operator of South Florida Master Craft, is interested in expanding their operations onto the subject parcel and is working on the preparation of development plans for the site. Because their business operations involve larger vessels and trailers, maximum on site movements are necessary, and the additional 20 feet allows for greater turning movements and storage options. As a result, the CRA has submitted the necessary paperwork to abandon the alley.

When a right-of-way, such as this unimproved alley, is abandoned the abandoned land is transferred in equal portions from the general public to the abutting property owner(s) per State Statute. Typically, two (2) properties would be affected by an abandonment request, and as a result one-half of the right-of-way is conveyed to one (1) abutting property owner and the other half is conveyed to the other abutting property owner. The applicant requesting this abandonment is the owner of the abutting property to the east (at 711 N. Federal Highway). Public records indicate that Florida East Coast Railway is the owner of the abutting property to the west (50-foot wide railroad right-of-way). Since the FEC RR is a right-of-way entity, the entire abandoned 20-foot wide alley parcel would become part of the applicant's property.

ANALYSIS

Owners of properties within 400 feet of the subject site were mailed a notice of this request and its respective hearing dates. The applicant has certified that they posted signage and mailed notices in accordance with Ordinance No. 04-007. A summary of the responses follows:

CITY DEPARTMENTS/DIVISIONS

Engineering	No objection.
Public Works/Utilities	No objection.
Planning and Zoning	No objection.

PUBLIC UTILITY COMPANIES

Florida Power and Light	No objection w/ provision of necessary easements and relocation of utilities at developer's cost, if necessary.

AT & T	No objection w/ provision of necessary easements and relocation of utilities at developer's cost, if necessary.
Florida Public Utilities	No objection.
Comcast	No objection.
Level 3	No objection w/provision of necessary easements and relocation of utilities at developer's cost, if necessary.
Sprint	No objection.
Hotwire	No objection.
Strome Networks	No objection.
Windstream	No objection.
PBC Traffic Engineering	No objection.

RECOMMENDATION

Staff has determined that the requested abandonment would not adversely impact traffic or other City functions, and would not adversely impact other adjacent property owners. Based on the above-analysis, staff has determined that the subject alley no longer serves a public purpose, and therefore recommends APPROVAL of the applicant's request, subject to the attached conditions. Any conditions requested by the Planning and Development Board or required by the Commission will be placed in Exhibit "C" - Conditions of Approval.

S:\Planning\SHARED\WP\PROJECTS\711 N. Federal Hwy.\ABAN 17-007\Staff Report.doc

Exhibit A

LOCATION MAP

Exhibit B

RECEIVED
AUG 14 2017
Development Department

SKETCH & DESCRIPTION FOR:
A PORTION OF 20' ALLEY
PENCE & KING ADDITION TO TOWN OF BOYNTON
(PLAT BOOK 1, PAGE 50, P.B.C.R.)
CITY OF BOYNTON BEACH, PALM BEACH COUNTY, FLORIDA

LAND DESCRIPTION:

A portion of the 20 foot alley lying parallel with and contiguous to the east right-of-way line of the Florida East Coast Railroad and the west line of Lots 19 through 22, PENCE & KING ADDITION TO THE TOWN OF BOYNTON, according to the plat thereof, as recorded in Plat Book 1, Page 50, of the Public Records of Palm Beach County, Florida, described as follows:

That portion of a 20 foot alley, bounded on the east by the west line of Lots 19 through 22, bounded on the west by the east right-of-way line of the Florida East Coast Railroad, bounded on the north by the westerly extension of the south line of the north 5.00 feet of Lot 19, and bounded on the south by the westerly extension of the north line of the south 21.5 feet of Lot 22, all of PENCE & KING ADDITION TO THE TOWN OF BOYNTON, according to the plat thereof, as recorded in Plat Book 1, Page 50, of the Public Records of Palm Beach County, Florida.

Said lands situate and being in the City of Boynton Beach, Palm Beach County, Florida.

SURVEYOR'S NOTES:

1. Reproductions of this Sketch are not valid without the signature and the original raised seal of a Florida Licensed Surveyor and Mapper. Additions or deletions to this sketch by other than the signing party is prohibited without written consent of the signing party.
2. No Title Opinion or Abstract to the subject property has been provided. It is possible that there are Deeds, Easements, or other instruments (recorded or unrecorded) which may affect the subject property. No search of the Public Records has been made by the Surveyor.
3. The land description shown hereon was prepared by the Surveyor.
4. Data shown hereon was compiled from instrument(s) of record and does not constitute a boundary survey.
5. Abbreviation Legend: ℄ = Centerline; L.B. = Licensed Business; O.R.B. = Official Records Book; P = Per Record Plat; P.B. = Plat Book; P.B.C.R. = Palm Beach County Records; P.L.S. = Professional Land Surveyor; R/W = Right-of-Way.

CERTIFICATION:

I HEREBY CERTIFY that the attached Sketch and Description of the hereon described property is true and correct to the best of my knowledge and belief as prepared under my direction. I FURTHER CERTIFY that this Sketch and Description meets the Standards of Practice set forth in Chapter 5J-17.050 through 5J-17.052, Florida Administrative Code, pursuant to Section 472.027, Florida Statutes.

Date: 7/11/17

MICHAEL D. AVIROM, P.L.S.
Florida Registration No. 3268
AVIROM & ASSOCIATES, INC.
L.B. No. 3300
EMAIL: mike@aviromsurvey.com

REVISIONS
REV. R/W DEDICATION WIDTH 07/11/2017 (M.M.K.)

AVIROM & ASSOCIATES, INC.
SURVEYING & MAPPING
50 S.W. 2nd AVENUE, SUITE 102
BOCA RATON, FLORIDA 33432
(561) 392-2594 / www.AVIROMSURVEY.com

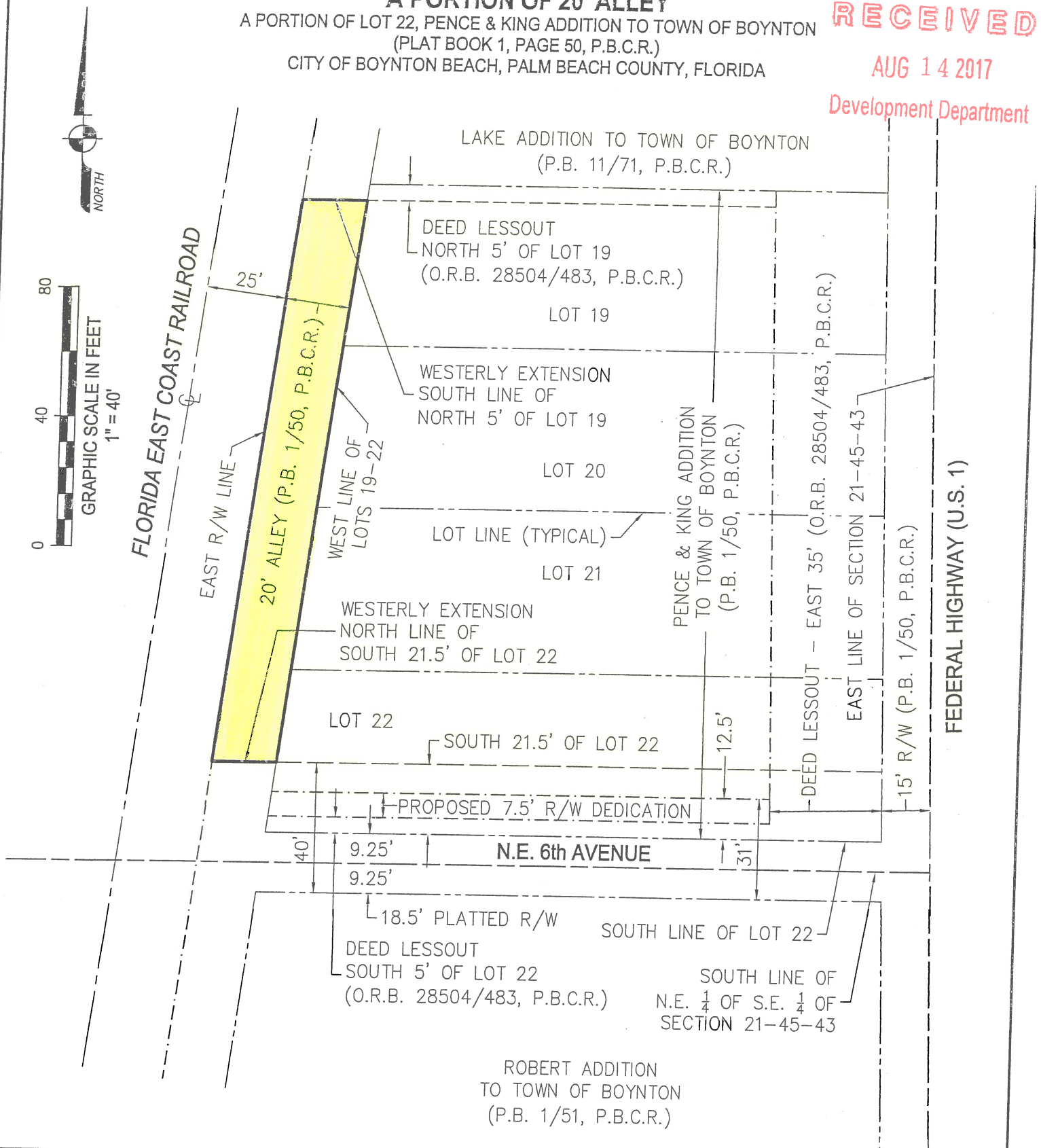
©2017 AVIROM & ASSOCIATES, INC. all rights reserved.
This sketch is the property of AVIROM & ASSOCIATES, INC. and should not be reproduced or copied without written permission.

JOB #:	10475B
SCALE:	N/A
DATE:	04/25/2017
BY:	M.M.K.
CHECKED:	M.D.A.
F.B.	N/A PG. N/A
SHEET:	1 OF 2

SKETCH & DESCRIPTION FOR:
A PORTION OF 20' ALLEY

A PORTION OF LOT 22, PENCE & KING ADDITION TO TOWN OF BOYNTON
(PLAT BOOK 1, PAGE 50, P.B.C.R.)
CITY OF BOYNTON BEACH, PALM BEACH COUNTY, FLORIDA

RECEIVED
AUG 14 2017
Development Department



REVISIONS
REV. R/W DEDICATION WIDTH 07/11/2017 (M.M.K.)

AVIROM & ASSOCIATES, INC.
SURVEYING & MAPPING
50 S.W. 2nd AVENUE, SUITE 102
BOCA RATON, FLORIDA 33432
(561) 392-2594 / www.AVIROMSURVEY.com

©2017 AVIROM & ASSOCIATES, INC. all rights reserved.
This sketch is the property of AVIROM & ASSOCIATES, INC.
and should not be reproduced or copied without written permission.

JOB #:	10475B
SCALE:	1" = 40'
DATE:	04/25/2017
BY:	M.M.K.
CHECKED:	M.D.A.
F.B.	N/A PG. N/A
SHEET:	1 OF 1

EXHIBIT "C"

CONDITIONS OF APPROVAL

Project Name: 711 N. Federal Highway
File number: ABAN 17-007
Reference: 1st review plans identified as a Abandonment with an August 14, 2017 Planning and Zoning Department date stamp marking.

DEPARTMENTS	INCLUDE	REJECT
ENGINEERING / PUBLIC WORKS / FORESTRY / UTILITIES		
Comments: None.		
FIRE		
Comments: None.		
POLICE		
Comments: None.		
BUILDING DIVISION		
Comments: None.		
PARKS AND RECREATION		
Comments: None.		
PLANNING AND ZONING		
Comments:		
1. Any conditions of approval from the various utility companies requiring new or revised easements and developer relocation of their facilities will be required to be addressed prior to issuance of a building permit.	X	
COMMUNITY REDEVELOPMENT AGENCY		
Comments: None.		

DEPARTMENTS	INCLUDE	REJECT
PLANNING & DEVELOPMENT BOARD CONDITIONS		
Comments: None.		
CITY COMMISSION CONDITIONS		
Comments: To be determined.		

S:\Planning\SHARED\WP\PROJECTS\711 N. Federal Hwy.\Abandonment\ABAN 17-007\COA post P&D.doc

DEVELOPMENT ORDER OF THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA

PROJECT NAME: 711 N. Federal Highway (ABAN 17-007)

APPLICANT: Michael Simon, Executive Director Boynton Beach CRA

APPLICANT'S ADDRESS: 710 N. Federal Highway, Boynton Beach, FL 33435

DATE OF HEARING RATIFICATION BEFORE CITY COMMISSION: November 8, 2017

APPROVAL SOUGHT: Request for abandonment of a portion of the alley immediately west of 711 North Federal Highway, and immediately north of NE 6th Avenue (ABAN 17-007).

LOCATION OF PROPERTY: 711 N. Federal Highway

DRAWING(S): SEE EXHIBIT "B" ATTACHED HERETO.

_____ THIS MATTER was presented to the City Commission of the City of Boynton Beach, Florida on the date of hearing stated above. The City Commission having considered the approval sought by the applicant and heard testimony from the applicant, members of city administrative staff and the public finds as follows:

1. Application for the approval sought was made by the Applicant in a manner consistent with the requirements of the City's Land Development Regulations.

2. The Applicant
   ___ HAS
   ___ HAS NOT

   established by substantial competent evidence a basis for the approval requested.

3. The conditions for development requested by the Applicant, administrative staff, or suggested by the public and supported by substantial competent evidence are as set forth on Exhibit "C" with notation "Included."

4. The Applicant's request is hereby
   ___ GRANTED subject to the conditions referenced in paragraph 3 above.
   ___ DENIED

5. This Order shall take effect immediately upon issuance by the City Clerk.

6. All further development on the property shall be made in accordance with the terms and conditions of this order.

7. Other: _____
   _____
   _____

DATED:_____ _____
City Clerk

S:\Planning\SHARED\WP\PROJECTS\711 N. Federal Hwy.\Abandonment\ABAN 17-007\DO.doc

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED ORDINANCE NO. 17-031 - SECOND READING - Approve amendments to the LAND DEVELOPMENT REGULATIONS, Chapter 1, Article II, Definitions and Chapter 3, Article IV, Section 3.D, Table 3-28, Use Matrix and Footnote #57 to add definitions, use provisions, and standards that regulate the medical marijuana dispensary industry.

EXPLANATION OF REQUEST:
On November 8, 2016, Florida voters approved Amendment 2, which fully legalized the medical use of marijuana throughout the State for individuals with specified "debilitating" conditions and would authorize cultivation, processing, distribution, and sale of marijuana and related activities.

On June 9, 2017 at the Florida Legislature special session, the Florida House and Senate passed bills amending the state's medical marijuana laws. The Governor subsequently signed the bills on June 23, 2017.

As part of those amendments, the state law includes preemptions outlined below:

- City may not place specific limits on the number of dispensing facilities.
- City may not enact regulations or restrict locations, which are more restrictive than regulations, or locations for pharmacies.
- City may not charge a fee in an amount greater than the fee charged to pharmacies.
- Dispensaries cannot be located within 500 feet of an elementary, middle, or secondary school unless City approves location through formal proceeding.

The purpose of these amendments is to establish requirements that regulate marijuana-dispensing facilities in the interest of the public health, safety and general welfare and that ease the regulatory burden on the City.

In particular, this amendment is intended to regulate the sale and distribution of medical marijuana to ensure a supply to patients who qualify to obtain, possess, and consume, or any other use of medical marijuana permissible under state law.

The Planning & Development Board reviewed this item on September 26, 2017 and forwards it with a recommendation for approval .

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
There are no anticipated changes in City programs or services.

FISCAL IMPACT:
The new use would increase application, permitting and business tax receipt revenues.

ALTERNATIVES:
1. Add medical marijuana dispensaries to the land development regulations while amending the regulations for pharmacies to implement further restrictions.
2. Ban medical marijuana dispensaries in the City.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION: N/A

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION: N/A

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Ordinance	Ordinance amending Land Development REgulations regarding medical marijuana dispensing
🗋	Staff Report	Staff Report
🗋	Exhibit	Exhibit "A"
🗋	Exhibit	Exhibit "B"

ORDINANCE NO. 17-

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA AMENDING LAND DEVELOPMENT REGULATIONS, CHAPTER 1, ARTICLE II, "DEFINITIONS"; AMENDING CHAPTER 3, ARTICLE IV, SECTION 3.D, TABLE 3-28, USE MATRIX AND FOOTNOTE #57 TO ADD DEFINITIONS, USE PROVISIONS AND STANDARDS THAT REGULATE THE MEDICAL MARIJUANA DISPENSARY INDUSTRY; PROVIDING FOR CONFLICTS, SEVERABILITY, CODIFICATION AND AN EFFECTIVE DATE.

WHEREAS, on November 8, 2016, the Florida voters approved Amendment #2 which fully legalized the medical use of marijuana throughout the State for individuals with specified "debilitating" conditions and would authorize cultivation, processing, distribution and sale of marijuana and related activities; and

WHEREAS, on June 9, 2017 at the Florida Legislature special session, the Florida House and Senate passed bills amending the state's medical marijuana laws; and

WHEREAS, staff is recommending approval of the proposed amendments as they are intended to regulate the sale and distribution of medical marijuana to ensure a supply to patients who qualify to obtain, possess, and consume or any other use of medical marijuana permissible under state law; and

WHEREAS, the City Commission has considered the recommendations and has determined and finds that it is in the best interest of the citizens and residents of the City of Boynton Beach, Florida to approve the amendments to the Land Development Regulations as contained herein.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing whereas clauses are true and correct and are now ratified and

confirmed by the City Commission.

Section 2. Chapter 1, Article II, Definitions of the Land Development Regulations of the City of Boynton Beach Code of Ordinances is hereby amended as follows:

Chapter 1, Article II, Definitions.

…

Medical Marijuana Dispensary. A facility, operated by a Medical Marijuana Treatment Center (MMTC) in accordance with the Florida Department of Health as a medical marijuana dispensing facility that dispenses medical marijuana to qualified patients or caregivers. A medical marijuana dispensing facility does not prepare, transfer, cultivate or process any form of marijuana or marijuana product.

…

Section 3. Chapter 3, Article IV, Section 3.D, Table 3-28 Use Matrix and Footnote #57 of the Land Development Regulations of the City of Boynton Beach Code of Ordinances is hereby amended as reflected in Exhibit "A" and as follows:

Chapter 3, Article IV, Sec. 3, Notes

1. General Note. Gross floor area shall not exceed five thousand (5,000) square feet.

2. General Note. The gross floor area shall not exceed ten thousand (10,000) square feet.

15. General Note. This use shall be integrated into a mixed-use building or development. It must not 1) occupy more than fifty percent (50%) of the gross floor area of any given building; and 2) exceed twenty percent (20%) of the gross floor area of the mixed use development.

17. General Note.

a. All Mixed-Use Districts. This use shall be integrated into a mixed-use building or development. It must not 1) occupy more than fifty percent (50%) of the gross floor area of any given building or 2) exceed thirty percent (30%) of the gross floor area of the mixed use development.

b. MU-L1 district, MU-L2 district, and MU-L3 district. The subject use is only allowed on lots fronting on arterial or collector roadways.

27. General Note. This non-industrial use is allowed within the PID district provided it is located on a lot that has a Mixed Use (MU) land use option fronting on an arterial roadway or on a MU lot with a development order that is not solely for residential development.

57. Pharmacy, ~~&~~ Drug Store, and Medical Marijuana Dispensary.

a. All Districts.

(1) No more than fifteen percent (15%) of the total number of prescriptions sold within a thirty (30) day period can be derived from the sale of Schedule II controlled substances as listed in F.S. § 893.03. All pharmacies and drug stores shall be staffed by a state licensed pharmacist who shall be present during all hours the pharmacy, or pharmacy function of the drug store, is open for business. This restriction on prescription sales shall not apply to a pharmacy operating accessory to a facility licensed pursuant to F.S. Chapter 395 (e.g., hospital).

(2) A medical marijuana dispensing facility may not be located within five hundred (500) feet of the real property that comprises a public or private elementary school, middle school, or secondary school.

b. MU-4 and MU-H District. Use shall be subject to the following distance separation requirements from similar uses, measured in a straight line, using the shortest distance between property lines shall be the following:

(1) Seven hundred fifty (750) feet: For uses with less than five thousand (5,000) square feet of gross floor area;

(2) One thousand, five hundred (1,500) feet: For uses with a gross floor area equal to or greater than five thousand (5,000) gross square feet.

Section 4. Each and every other provision of the Land Development Regulations not herein specifically amended, shall remain in full force and effect as originally adopted.

Section 5. All laws and ordinances applying to the City of Boynton Beach in conflict with any provisions of this ordinance are hereby repealed.

Section 6. Should any section or provision of this Ordinance or any portion thereof be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this Ordinance.

Section 7. Authority is hereby given to codify this Ordinance. The City Clerk is directed to work with the Land Development Regulations publisher to consolidate this ordinance and the exhibit for publication.

Section 8. This Ordinance shall become effective immediately.

FIRST READING this ___ day of _____, 2017.

SECOND, FINAL READING AND PASSAGE this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

DEPARTMENT OF DEVELOPMENT
PLANNING AND ZONING
Memorandum PZ 17-018

TO: Chair and Members
Planning & Development Board

FROM: Andrew P. Mack, P.E., Director of Development A.M.

DATE: September 26, 2017

RE: Approve amendments to the LAND DEVELOPMENT REGULATIONS, Chapter 1, Article II, Definitions and Chapter 3, Article IV, Section 3.D, Table 3-28, Use Matrix and Footnote #57 to add definitions, use provisions, and standards that regulate the medical marijuana dispensary industry.

OVERVIEW

The rewrite of the City's Land Development Regulations (LDR) in late 2010 allowed staff to perform a complete review and analysis of each standard, regulation, and process. As part of the post-adoption process, staff anticipates the periodic need for, and is prepared to expeditiously process, updates and amendments to the LDR for one or more of the following reasons:

1. Furthering business and economic development initiatives;
2. Advancing sustainability initiatives;
3. Maintaining internal consistency;
4. Achieving regulatory compliance; and
5. Incorporating implementation feedback to meet original objectives or new vision.

The proposed amendment would support items #1 and #4.

BACKGROUND

On November 8, 2016, Florida voters approved Amendment 2, which fully legalized the medical use of marijuana throughout the State for individuals with specified "debilitating" conditions and would authorize cultivation, processing, distribution, and sale of marijuana and related activities. The City's LDR do not currently contain provisions for the regulation of marijuana dispensing organizations and facilities.

On June 9, 2017 at the Florida Legislature special session, the Florida House and Senate passed bills amending the state's medical marijuana laws. The Governor subsequently signed the bills on June 23, 2017.

As part of those amendments, the state law includes preemptions that are outlined below:

- City may not place specific limits on the number of dispensing facilities.

- City may not enact regulations or restrict locations, which are more restrictive than regulations, or locations for pharmacies.
- City may not charge a fee in an amount greater than the fee charged to pharmacies.
- Cannot be located within 500 feet of an elementary, middle, or secondary school unless City approves location through formal proceeding.

The purpose of these amendments is to establish requirements that regulate marijuana-dispensing facilities in the interest of the public health, safety and general welfare and that ease the regulatory burden on the City.

In particular, this amendment is intended to regulate the sale and distribution of medical marijuana to ensure a supply to patients who qualify to obtain, possess, and consume, or any other use of medical marijuana permissible under state law.

PROPOSED DEVELOPMENT STANDARDS

The proposed amendments to Chapters 1 and 3 of the LDR are provided in their entirety in Exhibits "A" and "B", with the most notable amendments summarized below:

- ***Zoning*** – Allowed as a permitted use in all commercial, mixed use, and planned industrial districts;
- ***Location*** – In PID, limited to properties that front an arterial with mixed use (MU) land use option;
- ***Minimum Separation*** – 500 feet from an elementary, middle, or secondary school.

CONCLUSION/RECOMENDATION

Staff is recommending approval of the proposed code amendments to provide the proper zoning accommodations for the desired use, to maximize compatibility of land uses, and to ensure safe business operations.

Attachment

Exhibit “A”:

Use Matrix – Table 3-28 (Excerpt)- LDR, Ch. 3, Art. IV, Section 3.D.

P = Permitted C = Conditional A = Accessory		Residential									Commercial							Mixed-Use					Industrial		Misc	
	R-1-AAB	R-1-AA	R-1-A	R-1	R-2	R-3	R-4	IPUD	PUD	MHP	C-1	C-2	C-3	C-4	CBD	PCD	SMU	MU-1	MU-2	MU-3	MU-4	MU-C	M-1	PID	PU	REC
COMMERICAL Retail Sales																										
Medical Marijuana Dispensary											P 1 57	P 2 57	P 57	P 57	P 57	P 57	P 17 57	P 17 57	P 17 57	P 17 57	P 17 57	P 17 57		P 15 27 57		

Exhibit "B"

Chapter 1, Article II, Definitions.

Medical Marijuana Dispensary. A facility, operated by a Medical Marijuana Treatment Center (MMTC) in accordance with the Florida Department of Health as a medical marijuana dispensing facility that dispenses medical marijuana to qualified patients or caregivers. A medical marijuana dispensing facility does not prepare, transfer, cultivate or process any form of marijuana or marijuana product.

Chapter 3, Article IV, Sec. 3, Notes

1. General Note. Gross floor area shall not exceed five thousand (5,000) square feet.

2. General Note. The gross floor area shall not exceed ten thousand (10,000) square feet.

15. General Note. This use shall be integrated into a mixed-use building or development. It must not 1) occupy more than fifty percent (50%) of the gross floor area of any given building; and 2) exceed twenty percent (20%) of the gross floor area of the mixed use development.

17. General Note.

a. All Mixed-Use Districts. This use shall be integrated into a mixed-use building or development. It must not 1) occupy more than fifty percent (50%) of the gross floor area of any given building or 2) exceed thirty percent (30%) of the gross floor area of the mixed use development.

b. MU-L1 district, MU-L2 district, and MU-L3 district. The subject use is only allowed on lots fronting on arterial or collector roadways.

27. General Note. This non-industrial use is allowed within the PID district provided it is located on a lot that has a Mixed Use (MU) land use option fronting on an arterial roadway or on a MU lot with a development order that is not solely for residential development.

57. Pharmacy, ~~&~~ Drug Store, and Medical Marijuana Dispensary.

a. All Districts.

(1) No more than fifteen percent (15%) of the total number of prescriptions sold within a thirty (30) day period can be derived from the sale of Schedule II controlled substances as listed in F.S. § 893.03. All pharmacies and drug stores shall be staffed by a state licensed pharmacist who shall be present during all hours the pharmacy, or pharmacy function of the drug store, is open for business. This restriction on prescription sales shall not apply to a pharmacy operating accessory to a facility licensed pursuant to F.S. Chapter 395 (e.g., hospital).

(2) A medical marijuana dispensing facility may not be located within five hundred (500) feet of the real property that comprises a public or private elementary school, middle school, or secondary school.

b. MU-4 and MU-H District. Use shall be subject to the following distance separation requirements from similar uses, measured in a straight line, using the shortest distance between property lines shall be the following:

(1) Seven hundred fifty (750) feet: For uses with less than five thousand (5,000) square feet of gross floor area;

(2) One thousand, five hundred (1,500) feet: For uses with a gross floor area equal to or greater than five thousand (5,000) gross square feet.

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Mayor Grant requests approval for $300 of his Community Support Funds to be donated to the Ment2MakeIt, Inc.

EXPLANATION OF REQUEST: Ment2MakeIt, Inc. is a young men's mentoring program in Boynton Beach. Mission Statement: "Investing in the youth by showing them positive and efficient ways to not only survive in the world, but thrive in the world.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? There will be no impact on City programs or services.

FISCAL IMPACT: Budgeted The Community Support Funds of $2,000 for each Commission member were approved in the 2017/2018 budget.

ALTERNATIVES: Do not approve request.

STRATEGIC PLAN: Building Wealth in the Community

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Other	Community Support Funds Form

R15-055

EXHIBIT "A"

COMMUNITY SUPPORT FUNDS REQUEST FORM

Part I - Summary of Request (to be completed by City Clerk)

Date of Request: 10/24/17
Requested by Mayor/Commissioner: Mayor Steven B. Grant
Amount Requested: $ 300.00
Recipient/Payee: MentzMakeIt, Inc - Cory Vice-Founder
Description of project, program, or activity to be funded:
MentzMakeIt, Inc is a young men's mentoring program in Boynton Beach.
Mission Statement: "Investing in the youth by showing them positive and efficient ways to not only survive in the World, but thrive in the world!!"

Part II - Availability of funds

The annual appropriation of funds available to the requesting Member of the Commission listed above is $2,000.

The balance of funds available for the requesting Member of the Commission is $2,000.00.

Accordingly:

- ☑ There are funds available as requested
- ☐ There are insufficient funds available as requested

Dated: 10/25/17 By: Jackie D. Taylor
City Clerk

Part III-Eligibility Evaluation

- ☐ Public funds will not be used to improve private property unless there is a clear public need, purpose and benefit
- ☐ The recipient/payee provides services within the City
- ☐ The public purpose is beneficial to the entire community served by such donation

Dated:_____ By:_____
Requesting Member of the City Commission

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: PROPOSED RESOLUTION NO. R17-113 - Resolution of City of Boynton Beach in support Florida House of Representatives House Memorial 263 urging the President to extend Haiti's Temporary Status designation for at least 18 months beyond its current January 22, 2018 expiration date. Representative Al Jacquet is available to comment to this topic.

EXPLANATION OF REQUEST:
Commissioner Romelus has requested the City Commission consider passing a resolution in support of the Florida House Memorial 263.

On May 22, 2017, the Department of Homeland Security extended Haiti's Temporary Protected Status designation for 6 months, making its current expiration date January 22, 2018.

Haiti's government is requesting a Temporary Protected Status extension of at least 18 months to enable it to deal with the overwhelming challenges facing the nation. Still recovering from the 2010 earthquake and in the wake of Hurricane Matthew, a category 4 hurricane that hit in 2017, Haiti's government will be unable to safely receive and assimilate the 58,000 Haitians with Temporary Protected Status or replace their remittances, rendering such deportations both unsafe and destabilizing.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? N/A

FISCAL IMPACT: None.

ALTERNATIVES: Do not pass this resolution.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Resolution	Resolution Supporting House Memorial 263 urging the President to extend Haiti's Temporary Protected Status Designation
Attachment	Fl House HM 263

RESOLUTION NO. R17-_____

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, SUPPORTING FLORIDA HOUSE OF REPRESENTATIVES HOUSE MEMORIAL 263 URGING THE PRESIDENT TO EXTEND HAITI'S TEMPORARY PROTECTED STATUS DESIGNATION FOR AT LEAST 18 MONTHS BEYOND ITS CURRENT JANUARY 22, 2018 EXPIRATION DATE; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, on May 22, 2017, the Department of Homeland Security extended Haiti's Temporary Protected Status designation for six (6) months making its current expiration date January 22, 2018; and

WHEREAS, Haiti's government is requesting a Temporary Protected Status extension of at lease 18 months to enable it to deal with the overwhelming challenges facing the nation; and

WHEREAS, Haiti's government will be unable to safely receive or assimilate the 58,000 Haitians with Temporary Protected Status or replace their remittance, rending such deportations both unsafe and destabilizing.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Resolution upon adoption hereof.

Section 2. The City Commission hereby supports Florida House of Representatives House Memorial 263 urging the President to extend Haiti's Temporary Protected Status designation for at least 18 months beyond its current January 22, 2018 expiration date.

Section 3. This Resolution will become effective immediately upon passage.

PASSED AND ADOPTED this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

House Memorial

A memorial to the President of the United States, urging the President to extend Haiti's Temporary Protected Status designation for at least 18 months beyond its current January 22, 2018, expiration date.

WHEREAS, On September 16, 2016, President Donald Trump told Haitian Americans he would be their "greatest champion," praising their "perseverance, entrepreneurship, creativity, [and] faith" and saying "all the things that make America good and strong can be found right here, amazing people, so I come here today to say that the Haitian American community deserves our gratitude and our respect, and I want you to know you have my respect," and

WHEREAS, President Trump continued, "The 2010 Haitian earthquake unleashed a horrible and catastrophic devastation: over 300,000 dead . . . millions displaced or injured, homes, businesses, schools reduced to rubble; amid the suffering Haiti showed the world so much heart and so much incredible resilience, but the truth is Haiti is still suffering very badly. The Haitian people deserve better, so . . . I will give them better," and

WHEREAS, on May 22, 2017, the Department of Homeland Security extended Haiti's Temporary Protected Status designation

CODING: Words ~~stricken~~ are deletions; words underlined are additions.

for 6 months, making its current expiration date January 22, 2018, and

WHEREAS, Haiti's government is requesting a Temporary Protected Status extension of at least 18 months to enable it to deal with the overwhelming challenges facing the nation, and

WHEREAS, by November 23, 2017, the Department of Homeland Security must decide whether to terminate or extend Haiti's Temporary Protected Status designation, and

WHEREAS, the Haitian-American community is concerned that without an 18-month Temporary Protected Status extension, Haiti will be unable to recover from recent extraordinary calamities, including the 2010 earthquake where nearly 40,000 earthquake victims still remain in internally displaced persons camps and 200,000 more remain in a camp that has evolved into a settlement named Canaan; the unchecked cholera epidemic introduced by United Nations peacekeepers in October 2010 which has killed at least 10,000 and sickened over 800,000, and for which the United Nations to date has raised only $10 million of its targeted $400 million to address; and Hurricane Matthew, a category 4 hurricane with 145-miles-per-hour winds that struck Haiti's southern peninsula, one of the nation's key breadbaskets, in 2016, greatly exacerbating the nation's food crisis after a 3-year drought in Haiti's rice-growing Artibonite and killing 1,000 people, leaving hundreds of thousands more without safe water or food, destroying crops, livestock, and infrastructure,

exacerbating the cholera epidemic, and causing Haiti's government to declare a state of emergency, and

WHEREAS, in a detailed December 2016 assessment, the United States Citizenship and Immigration Services concluded that the conditions in Haiti still warranted its Temporary Protected Status designation, making then-Secretary of State John Kerry recommend an extension, and

WHEREAS, however, under President Trump, the United States Citizenship and Immigration Services recommended not extending Haiti's Temporary Protected Status designation, and its new head of policy and strategy urged staff to find evidence of Haitian "criminality" to justify ending its designation, and

WHEREAS, since January 12, 2011, 58,000 Haitians with Temporary Protected Status have been residing in the United States and have strong community ties, including United States-born children who should not have to choose between their parents and their birthright as Americans, and

WHEREAS, these 58,000 Haitians regularly send remittances, including $1.3 billion in 2015, that help sustain approximately 320,000 to 500,000 of their relatives in Haiti, making them Haiti's chief source of foreign assistance, and

WHEREAS, Haiti's government will be unable to safely receive or assimilate the 58,000 Haitians with Temporary Protected Status or replace their remittances, rendering such deportations both unsafe and destabilizing, and

WHEREAS, Haiti's recovery and stability are in the national security interest of the United States, and

WHEREAS, therefore, the extension of Haiti's Temporary Protected Status designation for at least 18 months is in the national security interests of the United States and Haiti, and

WHEREAS, there is bipartisan support for a generous extension of Haiti's Temporary Protected Status designation, NOW, THEREFORE,

Be It Resolved by the Legislature of the State of Florida:

That President of the United States Donald Trump and Acting Secretary of the Department of Homeland Security Elaine Duke are respectfully urged to extend Haiti's Temporary Protected Status for at least 18 months beyond its current January 22, 2018, expiration date.

BE IT FURTHER RESOLVED that copies of this memorial be dispatched to the President of the United States, to the President of the United States Senate, to the Speaker of the United States House of Representatives, and to each member of the Florida delegation to the United States Congress.

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Discussion of number of boards people are allowed to serve on at one time, attendance policies, eligibility rules and qualification of members for all boards.

EXPLANATION OF REQUEST:
The City of Boynton Beach currently has ten boards, excluding the three pension boards. The boards are established by Ordinance or Resolution that outlines the duties and responsibilities of each board, qualifications to become a board member, terms of each seat on the board and attendance requirements. The Commission requested discussion on the boards to establish the policies and procedures for appointments and service on each board and to consistently apply the regulations. (See attached table of information)

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?
The Boards are advisory to the Commission and any clarification of duties and responsibilities of a board and its members will enhance their effectiveness and value to the Commission and the community as a whole.

FISCAL IMPACT: Non-budgeted The boards and their functions are not budgeted. Board members are volunteers.

ALTERNATIVES:
Maintain the status quo
Create a common attendance policy and criteria for any excused absences
Establish member qualifications that apply to all boards
Outline specific qualifications for specific boards
Change the application form.
Request resumes with all applications
Address the 3 year sanction if removed from a board
Establish new rotation of appointments process
Clarify service on two or more boards
Establish date for reappointments for term expirations

STRATEGIC PLAN: High Performing City Organization

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

Type	Description
Other	TABLE OF BOARDS
Other	Attendance Code of ORd
Ordinance	Ord Arts Commission
Ordinance	Ords Building Board of Adj and Apls
Resolution	Reso CRAAB
Resolution	Reso Citizens Oversight Committee
Ordinance	Ord - Educ and Yuth Adv Bd
Ordinance	Ord Golf Course Committee
Ordinance	Ord - Historic Resource Preservation Bd
Ordinance	Ord - Library Bd
Ordinance	Ord - Plng and Dev Bd
Ordinance	Ord - Rec and Parks Bd.
Ordinance	Ord - Senior Adv Bd
Addendum	Municipal Survey on Boards 2010
Other	Municipal Survey on Boards 2001
Addendum	History of discusssion on adv bd appts
Minutes	Minute excerpts from 1973 to 2017

Board	Created	Ordinance	# of Reg	Term	# of Alt	Term	Criteria	Qualifications	Reappoint	Spl. Cond.
Arts Commission	01/02/02	01-064 04-31	7	3 yrs	2	1 yr.	Registered voter; Resident or business owner in the City	Artists, art volunteer/activist; planner; private developer; architect, neighborhood assoc. member or interested citizens	December	Appt. Chair and Vice Chair in May
Building Board of Adjustment and Appeals	03/16/76	76-11	5	3 yrs	2	2 yrs	Registered voter; City resident	Architects, engineers, gen. contractor, citizens with knowledge and experience in trades connected to building industry	December	4 Quorum
CRA Advisory Board	10/20/15	R15-136	7	None	None		Registered voters; At least 4 members must be business owners operating in the City	Education, skills and experience as deemed necessary by the City Commission Meets Monthly	Upon vacancy	
Citizen Oversight Committee	02/21/17	R17-020	5	None	None		Registered voters; by City Manager	Experience , education or skills as determined Meets TBD	At discretion of City Manager	

Board	Created	Ordinance	# of Reg	Term	# of Alt	Term	Criteria	Qualifications	Reappoint	Spl. Cond.
Education & Youth Advisory Board	6/6/06	06-05	9	3 yrs	2 3 Stu	1 yr	Registered voters City residents	Meets monthly	December	Miss 4 meetings termination; Establish Quorum -4
Golf Course Adv. Committee	05/22/90	County R19-8720	5	5 yrs	2	5 yrs	Five members – three of whom are appointed by the City and two appointed by the County. Three alternates, two appointed by City and one appointed by County	Meets on call	June	

Board	Created	Ordinance	# of Reg	Term	# of Alt	Term	Criteria	Qualifications	Reappoint	Spl. Cond.
Historic Resources Preservation Bd.	2/15/11	11-007	7	3 yrs	2	2 yrs	Registered voters; prefers residents or business owners in City	2 members -- Back ground in architecture, history, architectural history, archaeology, landscape architecture or planning; 3 members experience in community development, real estate, banking or law; 2 members citizens at large; 2 alternates any of the qualifications Meets monthly	April	Miss 4 meetings termination
Library Bd	4/17/61	61-008	7	3 yrs	2	1 yr	Residents and electors of the City	Meets monthly	December	Quorum - 4

Board	Created	Ordinance	# of Reg	Term	# of Alt	Term	Criteria	Qualifications	Reappoint	Spl. Cond.
Planning and Development Bd.	1/19/71	71-001	7	2 yrs	2	1 yr	Palm Beach County electors; City residents	Preference to those in architecture, landscape architecture, landscape design and planning Meets monthly	December	Quorum 4 Board; Elections in April; Miss 4 meeting terminated; Elected Chair and Vice Chair in January
Recreation and Parks Bd	02/06/02	61-002	7	3 yrs	2	1 yr	Electors of the city; City residents	Meets monthly	December	Commission appoints the chair and Vice Chair
Senior Adv. Bd.	06/02/92	92-013	7	2 yrs	2	1 yr	Electors of Palm Beach County; City residents	Meets 4 times a year	December	Elect officers in May; Miss 4 meetings terminated; Quorum - 4

Print

Boynton Beach, FL Code of Ordinances

Sec. 2-16. City boards and commissions; minimum qualifications for appointment, membership.

(a) In order to qualify for appointment to and to serve as a member of any board or committee of the city, an individual must be an elector of Palm Beach County, Florida.

(b) In selecting individuals to serve on boards and committees of the city, preference shall be given to individuals who are residents of the City of Boynton Beach, provided however, that non-residents who own and operate businesses located within the city may also qualify for appointment provided they possess qualifications or experience uniquely suited to deal with the subject matter over which the board or committee has subject matter review or power.

(c) No currently serving member of any board or committee shall be disqualified for falling to meet the minimum qualifications set forth in this section. However, at the expiration of the term of each current board of committee member, the vacancy created by that expiring term shall be filled with an individual qualified in accordance with the provisions of this section.

(d) Notwithstanding any other provision of city code or procedural rule, no alternate member of any city board may serve in the capacity of its Chairperson, Vice Chair, Chair Pro-Tem, or hold any other office on said board.

(e) No alternate member may be moved to a regular member of the Board unless appointed by the City Commission.

(f) When a member of any Board, with the exception of those Boards that have regularly scheduled meetings more than once a month, has missed three regular monthly meetings for any reason within one annual board term, that member will be notified that one additional absence will cause his/her Board membership to be terminated and a replacement will be appointed at the time of the next absence. Those boards that have regularly scheduled meetings more than once a month shall be permitted to have six absences during any one annual board term. The seventh absence shall result in removal from the board.

(g) No person shall be appointed to a City Board without the person first submitting an application for appointment. No application for appointment shall be considered by the City Commission until the application form has been fully completed and signed by the applicant. All applications for appointment to a City Board shall be on a form authorized by the City Commission. The City Clerk shall review all applications for completeness prior to submitting them to the City Commissioners for consideration.

(1) Prior to appointment, a City Commissioner may request written confirmation of the qualifications listed by any applicant for appointment. When a request for confirmation of the qualifications is made by a City Commissioner prior to appointment, the appointment shall be delayed until the information requested is submitted and made available to the members of the City Commission. No person shall be appointed to a City Board when that person is unable to substantiate the qualifications listed on their application.

(2) A member of the City Commission may request written confirmation of qualifications of a person who has been appointed by the Commission to a City Board. A request for confirmation shall be made by the City Commissioner to the City Clerk. The City Clerk shall make written request to the Board member. A copy of the Clerk's written request shall be provided to all members of the City Commission.

(3) Except as otherwise provided by law, a Board member who does not submit documentation of the qualifications listed on the Board member's application for appointment within thirty (30) days of receipt of the Clerk's written request, or who submits documentation which contradicts, negates, or fails to substantiate the information listed on the Board member's application shall automatically be removed from their Board position.

(4) A person who is removed from a City Board pursuant to the procedures set forth in this section shall not be subject to reappointment to any City Board for a period of thirty-six (36) months.

(i) The City Commission shall fill vacancies on city boards by making appointments in December following the city's November commission elections, commencing with the City Commission election of November, 2007. To the extent necessary to transition from April to November appointment, the term of office for any board appointee which would expire in April, 2008 or any April thereafter shall instead expire in the preceding November.

(Ord. No. 90-11, §§ 1—3, 6-19-90; Ord. No. 98-48, § 1, 12-15-98; Ord. No. 99-03, § 1, 1-19-99; Ord. No. 01-60, § 1, 12-18-01; Ord. No. 03-024, § 2, 6-17-03; Ord. No. 07-004, § 2, 1-16-07)

***Editor's note**-Ord. No. 90-11, §§ 1—3, adopted June 19, 1990, did not specifically amend the Code, but has been included as § 2-16 by the editor.*

***Cross references**-Procedures for boards, commissions, etc., with independent purchasing authority, § 2-61; code compliance board, § 2-72 et seq.; building board of adjustment and appeals,* § 5.153 et seq. ; cemetery, board of governors, § 6-4 et seq.; library board, § 12-1 et seq.; parks and recreation board, § 16-1 et seq.; planning and zoning board, § 19-1 et seq. ; community appearance board, § 19-38 et seq .; technical review board, § 19-63 et seq.

Sec. 2-17. City boards, appointment of alternate members.

All boards of the city with seven (7) or more members, shall have a minimum of two (2) alternate members, to be appointed by the city commission. All boards of the city with less than seven (7) members, shall have a minimum of one (1) alternate member, to be appointed by the city commission. The alternate members shall hold the same general qualifications as regular members to be eligible for appointment. The term of alternate members, if not otherwise provided, shall be for one (1) year and such appointees may be reappointed.

(Ord. No. 92-55, § 1, 11-17-92)

***Editor's note**-Ord. No. 92-55, § 1, adopted Nov. 17, 1992, enacted provisions pertaining to appointment of alternate members to city boards. Such provisions have been designated by the editor as § 2-17.*

ORDINANCE 04-031

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING CHAPTER 2, ARTICLE IX, BOYNTON BEACH ARTS COMMISSION, SECTION 2-156 "ORGANIZATION", FOR PURPOSES OF CLARIFICATION AND CONSISTENCY; PROVIDING FOR CONFLICTS, SEVERABILITY, CODIFICATION AND AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Boynton Beach, Florida, desires to amend Chapter 2-156 (c) and (d), Organization of the Boynton Beach Arts Commission, to correctly reflect qualifications and appointments consistent with other Board appointments; and

WHEREAS, the City Commission of the City of Boynton Beach has determined that the enactment of this Ordinance is in the best interests of the citizens of the City of Boynton Beach;

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing Whereas clauses are true and correct and are now ratified and confirmed by the Commission.

Section 2. That Chapter 2, Article IX. Boynton Beach Arts Commission, Section 2-156 is hereby amended by adding the words and figures in underlined type, and by deleting the words and figures in struck-through type, as follows:

Sec. 2-156 Organization.

(a) The Arts Commission ...

(b) ~~All members of the Arts Commission shall be appointed by the City Commission for three year staggered terms. The two (2) alternate members shall be appointed to one year terms. All members may be appointed at the pleasure of the City Commission at the termination of their appointment, with no limit as to the number of terms they may serve.~~

The Arts Commission shall be comprised of seven (7) permanent members, and two (2) alternate members, all to be appointed by the City Commission. Of the members so appointed, three (3) shall be for a term of three (3) years, two (2) shall be for a term of two (2) years, and two (2) shall be for a term of one (1) year. Their successors shall be appointed for a term of three (3) years. Alternate members shall be appointed for a period of one (1) year. All members may be reappointed at the pleasure of the City Commission at the termination of their appointment, with no limit as to the number of terms they may serve.

(c) Appointees to the Arts Commission shall be ~~citizens~~ residents or business owners preferably with the following background: Artist, art volunteer/activist; planner; private developer; architect; neighborhood association member; interested citizen.

(d) At the organizational meeting of the arts commission a chairperson and vice-chairperson shall be selected by majority vote of the arts commission. The chairperson and vice-chairperson shall be selected annually at the anniversary of the first meeting of the arts commission, or at the ~~November~~ May meeting of the arts commission.

Section 3. Each and every other provision of the Chapter 2 of the Code of Ordinances not herein specifically amended, shall remain in full force and effect as originally adopted.

Section 4. All laws and ordinances applying to the City of Boynton Beach in conflict with any provisions of this ordinance are hereby repealed.

Section 5. Should any section or provision of this Ordinance or any portion thereof be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this Ordinance.

Section 6. Authority is hereby given to codify this Ordinance.

Section 7. This Ordinance shall become effective immediately.

FIRST READING this 20 day of April, 2004.

SECOND, FINAL READING AND PASSAGE this 4 day of MAY,

2004.

CITY OF BOYNTON BEACH, FLORIDA

Jerry Taylor
Mayor

Vice Mayor

Commissioner

Commissioner

Commissioner

ATTEST:

Janet M. Pranitis
City Clerk

ORDINANCE NO. 01-64

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING CHAPTER 2, CREATING A NEW ARTICLE IX, OF THE CODE OF ORDINANCES TO PROVIDE FOR THE CREATION AND ESTABLISHMENT OF THE BOYNTON BEACH ARTS COMMISSION; PROVIDING FOR THE PURPOSE AND DUTIES OF THE ARTS COMMISSION; PROVIDING FOR THE ORGANIZATION OF THE ARTS COMMISSION; PROVIDING FOR MEETINGS OF THE ARTS COMMISSION; PROVIDING FOR THE POWERS; PROVIDING FOR CONFLICTS, SEVERABILITY, CODIFICATION AND AN EFFECTIVE DATE.

WHEREAS, a Strategic Initiative Team has advised that establishing an Arts Commission would assist in the development of a Community Identity of the City; and

WHEREAS, the City Commission of the City of Boynton Beach deems it to be in the best interests of the general welfare of the citizens of Boynton Beach to provide this public service to the community.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. That Part I, Chapter 2, Article IX, is hereby created as follows:

ARTICLE IX. BOYNTON BEACH ARTS COMMISSION

Sec. 2-154 Creation of Commission.

The city commission, in accordance with the powers vested in it, hereby creates and establishes the Boynton Beach Arts Commission, hereinafter referred to as the "arts commission".

Sec. 2-155 Purpose and Duties

(a) The purpose of the arts commission is to advise the City Commission on matters related to the arts, to develop a plan and programs to promote and support art in public places, and to recommend guidelines and funding for implementation.

(b) It shall be the duty of the arts commission to act as an Advisory Board to the City Commission in providing advice on matters relating to the visual arts.

(c) The arts commission may develop a public art plan and program for the city.

(d) The arts commission may recommend funding sources including private sources and grant funds; encourage public and private partnerships in the arts; review and make recommendations on proposals for art work for public buildings and public spaces; encourage the flow of art into the city; stimulate art related activities and events; study issues related to art and implement art programs as delegated to it by the City Commission from time to time.

(e) The arts commission shall periodically advise the city commission of its findings or proposals with respect to the foregoing issues and make recommendations to the city commission on any matter referred to it within as much time prescribed by the city commission.

Sec. 2-156 Organization.

(a) The Arts Commission shall consist of seven (7) regular members and two (2) alternate members and serve at the pleasure of the City Commission.

(b) All members of the Arts Commission shall be appointed by the City Commission for three-year staggered terms. The two (2) alternate members shall be appointed to one-year terms. All members may be reappointed at the pleasure of the city commission at the termination of their appointment, with no limit as to the number of terms they may serve.

(c) Appointees to the Arts Commission shall be citizens or business owners preferably with the following background: Artist, art volunteer/activist; planner; private developer; architect; neighborhood association member; interested citizen.

(d) At the organizational meeting of the arts commission a chairperson and vice-chairperson shall be selected by majority vote of the arts commission. The chairperson and vice-chairperson shall be selected annually at the anniversary of the first meeting of the arts commission, or at the November meeting of the arts commission

Sec. 2-157 Meetings.

The Arts Commission shall meet at an appropriate place and shall arrange a time for holding regular meetings of the arts commission, and for such other meetings as shall be necessary, and it may add to such rules of organization, regulation and procedure as it may deem necessary and determine the duties of its members and officers. Other specifications for conducting meetings, such as the number needed for a quorum, shall be in conformance with Section 166.041(4), Florida Statutes.

Sec. 2-158 Powers.

Nothing in this article shall be construed as restricting or curtailing any of the powers of the city commission, or as a delegation to the arts commission of any of the authority or discretionary powers vested and imposed by law in the city commission. The city commission declares that public interest, convenience and welfare required the appointment of the arts commission to act in a purely advisory capacity to the city commission for the purposes set forth in this article. Any power delegated here to the arts commission to adopt rules and regulations shall not be construed as a delegation of legislative authority, but purely a delegation of legislative authority.

Section 2. All ordinances or parts of ordinances in conflict herewith be and the same are hereby repealed.

Section 3. Should any section or provision of this ordinance or portion hereof, any paragraph, sentence or word be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this ordinance.

Section 4. Authority is hereby granted to codify said ordinance.

Section 5. This ordinance shall become effective immediately upon passage.

FIRST READING this 18 day of December 2001.

SECOND, FINAL READING AND PASSAGE this 2 day of January, 2002.

CITY OF BOYNTON BEACH, FLORIDA

Mayor

Vice Mayor

Commissioner

Commissioner

Commissioner

ATTEST:

City Clerk

H:\NBK\Arts Commission Ord rev 121001

S:\CA\Ordinances\Administrative\Arts Commission Ord rev121001.doc

BOYNTON BEACH
ADMINISTRATIVE AMENDMENTS
to the
2010 FLORIDA BUILDING CODE

ORDINANCE NO. 12-003
EFFECTIVE MARCH 6th, 2012

BEGINNING WITH PERMIT NO. 12-0923

City of Boynton Beach Department of Development
Building Division
100 East Boynton Beach Boulevard
Boynton Beach, Florida 33425
(561) 742-6350 Office
(561) 742-6357 Fax

This document can be downloaded online – at no charge – by visiting the "Forms & Publications" section of the Building Division page on the City of Boynton Beach website at www.boynton-beach.org

TABLE OF CONTENTS
ADMINISTRATIVE CODE
(Applies to all Construction Codes)

Chapter 1 Administration

Section		Page
101	GENERAL	3
102	APPLICABILITY	5
103	BUILDING DIVISION	8
104	DUTIES AND POWERS OF THE BUILDING OFFICIAL	8
105	PERMITS	10
106	FLOOR AND ROOF DESIGN LOADS	18
107	CONSTRUCTION DOCUMENTS	18
108	TEMPORARY STRUCTURES AND USES	29
109	FEES	30
110	INSPECTIONS	31
111	CERTIFICATES OF OCCUPANCY AND COMPLETION	39
112	SERVICE UTILITIES	41
113	BUILDING BOARD OF ADJUSTMENTS AND APPEALS	42
114	VIOLATIONS	44
115	STOP WORK ORDERS	45
116	UNSAFE STRUCTURES AND EQUIPMENT	45
117	TESTS	47
118	WIND LOADS	47
119	SEVERABILITY	47

SECTION 113
BUILDING BOARD OF ADJUSTMENT AND APPEALS

113.1 Appointment. There is hereby established a board to be called the Building Board of Adjustment and Appeals, which shall consist of seven members and two alternates. The applicable governing body shall appoint the Board.

113.2 Membership and Terms

113.2.1 Membership. The Building Board of Adjustment and Appeals shall consist of seven members. Such board members shall be composed of individuals with knowledge and experience in the technical codes to include, to the greatest extent possible, an architect, engineer, general contractor, electrical contractor, HVAC contractor, plumbing contractor, and any other contractor licensed category. In addition to the regular members, there should be two alternate members, one member with the qualifications referenced above and one member at large from the public. A board member shall not act in a case in which he has a personal or financial interest.

113.2.2 Terms. The terms of office of the board members shall be staggered so no more than one-third of the board is appointed or replaced in any 12-month period. The two alternates, if appointed, shall serve one-year terms. Vacancies shall be filled for an unexpired term in the manner in which original appointments are required to be made. Three absences of any member from required meetings of the board shall in a 12 month period, at the discretion of the applicable governing body, render any such member subject to immediate removal from office.

113.2.3 Quorum and voting. A simple majority of the board shall constitute a quorum. In varying any provision of this code, the affirmative votes of the majority present, but not less than three affirmative votes, shall be required. In modifying a decision of the building official, not less than four affirmative votes, but not less than a majority of the board, shall be required. In the event that regular members are unable to attend a meeting, the alternate members, if appointed, shall vote.

113.2.4 Secretary of board. The building official or his/her authorized representative shall act as secretary of the board and shall make a detailed record of all of its proceedings, which shall set forth the reasons for its decision, the vote of each member, the absence of a member, and any failure of a member to vote.

113.3 Powers. The Building Board of Adjustments and Appeals shall have the power, as further defined in 116.4, to hear appeals of decisions and interpretations of the building official and consider variances of the technical codes.

113.4 Appeals

113.4.1 Decision of the building official. The owner of a building, structure or service system, or duly authorized agent, may appeal a decision of the building official to the Building Board of Adjustment and Appeals whenever any one of the following conditions are claimed to exist:

1. The building official rejected or refused to approve the mode or manner of construction proposed to be followed or materials to be used in the installation or alteration of a building, structure or service system.

2. The provisions of this code do not apply to this specific case.

3. That an equally good or more desirable form of installation can be employed in any specific case, which *the building official has rejected or refused.*

4. The true intent and meaning of this code or any of the regulations hereunder have been misconstrued or incorrectly interpreted.

113.4.2 Variances. The Building Board of Adjustments and Appeals, when upon written request, has been so appealed to and after a hearing, may vary the application of any provision of this code to any particular case when, in its opinion, the enforcement thereof would do manifest injustice and would be contrary to the spirit and purpose of this or the technical codes or public interest, and also finds all of the following:

1. That special conditions and circumstances exist which are peculiar to the building, structure or service system involved and which are not applicable to others.

2. That the special conditions and circumstances do not result from the action or inaction of the applicant.

3. That granting the variance requested will not confer on the applicant any special privilege that is denied by this code to other buildings, structures or service system.

4. That the variance granted is the minimum variance that will make possible the reasonable use of the building, structure or service system.

5. That the grant of the variance will be in harmony with the general intent and purpose of this code and will not be detrimental to the public health, safety and general welfare.

113.4.2.1 Conditions of the variance. In granting the variance, the board may prescribe a reasonable time limit within which the action for which the variance is required shall be commenced or completed or both. In addition, the board may prescribe appropriate conditions and safeguards in conformity with this code. Violation of the conditions of a variance shall be deemed a violation of this code.

113.4.3 Notice of appeal. Notice of appeal shall be in writing and filed within 30 calendar days after the building official renders the decision. Appeals shall be in a form acceptable to the building official.

113.4.4 Unsafe or dangerous buildings or service systems. In the case of a building, structure or service system, which in the opinion of the building official, is unsafe, unsanitary or dangerous, the building official may, in the order, limit the time for such appeals to a shorter period.

113.5 Procedures of the board.

113.5.1 Rules and regulations. The board shall establish rules and regulations for its own procedure not inconsistent with the provisions of this code. The board shall meet on call of the chairman. The board shall meet within 30 calendar days after notice of appeal has been received.

113.5.1.1 Rules of Evidence. Formal rules of evidence shall not apply, but fundamental due process should be observed and govern the proceedings. Upon determination by the Chairperson, irrelevant, immaterial, or unduly repetitious evidence may be excluded, but all other evidence of a type commonly relied upon by reasonable, prudent persons in the conduct of their affairs shall be admissible, whether or not such evidence would be admissible in a trial in the courts of Florida. Any part of the evidence may be received in written form. The Board may request certain evidence be provided by an architect or engineer registered in the State of Florida, in which case said evidence shall be signed, sealed, and dated.

113.5.1.2 Testimony. Any member of the Board or the attorney representing the Board may inquire of, or question, any witness before the Board. Any member of the Board, the petitioner or his/her attorney, and/or the building official shall be permitted to inquire of any witness before the Board. The Board may consider testimony presented by the building official, the petitioner, or any other witness.

113.5.2 Decisions. The Building Board of Adjustment and Appeals shall, in every case, reach a decision without unreasonable or unnecessary delay. Each decision of the board shall also include the reasons for the decision. If a decision of the board reverses or modifies a refusal, order, or disallowance of the building official or varies the application of any provision of this code, the building official shall immediately take action in accordance with such decision. Every decision shall be promptly filed in writing in the office of the building official and shall be open to public inspection. A certified copy of the decision shall be sent by mail or otherwise to the appellant and a copy shall be kept publicly posted in the office of the building official for two weeks after filing. Every decision of the board shall be final; subject however to such remedy as any aggrieved party might have at law or in equity.

SECTION 114
VIOLATIONS

Any person, firm, corporation or agent who shall violate a provision of this code, or fail to comply therewith, or with any of the requirements thereof, or who shall erect, construct, alter, install, demolish or move any structure, electrical, gas, mechanical or plumbing system, or has erected, constructed, altered, repaired, moved or demolished a building, structure, electrical, gas, mechanical or plumbing system, without full compliance with applicable codes, laws, ordinances, rules and regulations, shall be guilty of a misdemeanor. Each such person shall be considered guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of applicable codes, laws, ordinances, rules and regulations is committed or continued, and upon conviction of any such violation such person shall be punished within the limits and as provided by state laws. Nothing in this section shall prevent the authority having jurisdiction from imposing fines, liens, or seek injunction relief, or exercising other enforcement powers as permitted by law. Code enforcement and penalties of *162 Florida Statutes Part I* shall be authorized

ORDINANCE NO. 8521

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING CHAPTER 5 - BUILDINGS, HOUSING AND CONSTRUCTION REGULATIONS, ARTICLE XI. BUILDING BOARD OF ADJUSTMENTS AND APPEALS, SECTION 5-153 ESTABLISHED; COMPOSITION; APPOINTMENT; REMOVAL. TO PROVIDE THAT ALL MEMBERS OF THE BUILDING BOARD OF ADJUSTMENTS AND APPEALS SHALL SERVE STAGGERED TERMS RANGING FROM ONE TO THREE YEARS, TO BE FOLLOWED BY TERMS OF THREE (3) YEARS THEREAFTER; PROVIDING A CONFLICTS CLAUSE, A SEVERABILITY CLAUSE, AUTHORITY TO CODIFY, AND AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1: Chapter 5 - Buildings, Housing and Construction Regulations, Article XI. Building Board of Adjustments and Appeals, Section 5-153. Established; composition; appointment; removal. of the Code of Ordinances, City of Boynton Beach, Florida, is hereby amended to read as follows:

> There is hereby created and established a board designated as the Building Board of Adjustments and Appeals, which shall consist of five (5) members, all of whom shall be residents and electors of the City, who shall be appointed by the City Council ~~to serve for terms of one year from the date of appointment~~. One member shall serve for a term of one (1) year from the date of appointment; two memebers shall serve for a term of two (2) years from the date of appointment; two memebers shall serve for a term of three (3) years from the date of appointment. Vacancies created after expiration of these terms shall be filled by appointments of three (3) year terms. Said Board shall be comprised of citizens with sufficient knowledge and previous experience in the various trades connected with the building industry to be able to serve competently and efficiently. If a vacancy shall occur on the Board, same shall be filled by appointment by the City Council. Members of the Board may be removed by a majority vote of the total members of the City Council. In addition to the regular Board members, there may be appointed two (2) additional members to be designated as alternate members to serve at meetings of the Board in the absence of regular Board members. One alternate shall serve for a term of one (1) year from the date of appointment; the other alternate shall serve for a term of two (2) years from the date of appointment.

Section 4: Authority is hereby give to codify this Ordinance.

Section 5: This Ordinance shall become effective immediately upon its passage.

FIRST READING this 19th day of March, 1985.

SECOND READING AND FINAL PASSAGE this second day of April, 1985.

CITY OF BOYNTON BEACH, FLORIDA.

Nick Cassandra
MAYOR

VICE MAYOR

Carl Zimmerman
COUNCIL MEMBER

COUNCIL MEMBER

COUNCIL MEMBER

ATTEST:

Suzanne M Kruse
CITY CLERK DEPUTY

(Corp. Seal)

ORDINANCE NO. 83-16

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING CHAPTER 5 - BUILDINGS, HOUSING AND CONSTRUCTION REGULATIONS, ARTICLE II. BUILDING BOARD OF ADJUSTMENTS AND APPEALS, SECTION 5-153 ESTABLISHED; COMPOSITION; APPOINTMENT; REMOVAL. TO PROVIDE THAT ALL MEMBERS OF THE BUILDING BOARD OF ADJUSTMENTS AND APPEALS SHALL BE RESIDENTS AND ELECTORS OF THE CITY OF BOYNTON BEACH, PROVIDING A CONFLICTS CLAUSE, A SEVERABILITY CLAUSE, AUTHORITY TO CODIFY, AND AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1: Chapter 5 - Buildings, Housing and Construction Regulations, Article II. Building Board of Adjustments and Appeals, Section 5-153. Established; composition; appointment; removal. of the Code of Ordinances, City of Boynton Beach, Florida, is hereby amended to read as follows:

> There is hereby created and established a board designated as the Building Board of Adjustments and Appeals, which shall consist of five (5) members, all of whom shall be residents and electors of the City, who shall be appointed by the City Council to serve for terms of one year from the date of appointment. Said Board shall be compromised of citizens with sufficient knowledge and previous experience in the various trades connected with the building industry to be able to serve competently and efficiently. If a vacancy shall occur on the Board, same shall be filled by appointment by the City Council. Members of the Board may be removed by a majority vote of the total members of the City Council. In addition to the regular Board members, there may be appointed two (2) additional members to be designated as alternate members to serve at meetings of the Board in the absence of regular Board members.

Section 2: All ordinances or parts of ordinances

Section 4: Authority is hereby given to codify this Ordinance.

Section 5: This Ordinance shall become effective immediately upon its passage.

FIRST READING this 3rd day of May, 1983.

SECOND READING AND FINAL PASSAGE this 17th day of May, 1983.

CITY OF BOYNTON BEACH, FLORIDA.

MAYOR

VICE MAYOR

COUNCIL MEMBER

COUNCIL MEMBER

COUNCIL MEMBER

ATTEST:

CITY CLERK

(Corp. Seal)

ORDINANCE NO. 77-5

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA AMENDING THE FOLLOWING SECTIONS OF THE CODIFIED ORDINANCES OF THE CITY OF BOYNTON BEACH, FLORIDA: SEC. 2-31 AND SEC. 2-33, PERTAINING TO LIBRARY BOARD: SEC. 2-41, PERTAINING TO PLANNING AND ZONING BOARD: SEC. 2-51, PERTAINING TO RECREATION AND PARKS BOARD: SUB. SEC. 111.1 AND 111.2 OF SEC. 5-2, PERTAINING TO BUILDING BOARD OF ADJUSTMENTS AND APPEALS; SEC. 6-17, PERTAINING TO MUNICIPAL CEMETERY BOARD, AND SEC. 10-A (1) APPENDIX A, ZONING REGULATIONS PERTAINING TO BOARD OF ADJUSTMENTS, TO PROVIDE FOR UNIFORM TERMS OF THE MEMBERS OF SAID ADVISORY BOARDS, PROVIDING FOR SAVINGS CLAUSE, REPEALING PROVISION, AN EFFECTIVE DATE AND FOR OTHER PURPOSES.

WHEREAS, the City Council of the City of Boynton Beach, Florida, deems it proper for the efficient operation and administration of the municipal government that various of the appointed citizen advisory boards consist of members, the terms of which shall be uniform, and that necessary amendments to existing ordinances be enacted to carry said purpose and intent into effect;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1: That Section 2-31 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to the Municipal Library Board, be and the same is hereby amended to read:

"Section 2-31. Creation; Members; Terms.

There is hereby established a Library Board, hereinafter referred to as "Board". The Board shall consist of seven (7) members who shall be appointed by the City Council to serve for terms of one (1) year from date of appointment.

In the case of vacancy by resignation, removal or otherwise, the City Council shall fill such vacancy by appointment."

Planning and Zoning Board, be and the same are hereby amended to read:

"Pursuant to the provisions of Section 23 of the Charter of the City of Boynton Beach, Florida, there is hereby created a Municipal Planning and Zoning Board, which shall consist of seven (7) members to be appointed by the City Council, to serve for terms of one (1) year from date of appointment. If a vacancy shall occur on said Board, same shall be filled by appointment by the City Council. Members of the Board may be removed by a majority vote of the total members of the City Council."

Section 3: Section 2-51 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to Recreation and Parks Board, be and the same is hereby amended to read:

"Section 2-51. Creation; Members; Qualifications.

There is hereby established a Recreation and Parks Board, hereinafter referred to as "Board", which Board shall consist of seven (7) members. The City Council shall appoint the members of said Board, which shall serve for terms of one (1) year from date of appointment. Members of the Board shall be residents of the City of Boynton Beach, Florida."

Section 4: Subsection 111.1 of Section 5-2 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to the Building Board of Adjustments and Appeals, be and the same is hereby amended to read: "There is hereby created and established a Board designated as the Building Board of Adjustments and Appeals, which shall consist of five (5) members, who shall be appointed by the City Council to serve for terms of one (1) year from date of appointment. Said Board shall be comprised of citizens with sufficient knowledge and previous experience in the various trades connected with the building industry to be able to serve competently and efficiently."

Subsection 111.2 of Section 5-2 of the codified ordinances of the City of Boynton Beach, Florida, be and the same is hereby repealed in its entirety.

Section 5: The first paragraph of Section 6-17 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to the Municipal Cemetery Board, be and the same is hereby amended to read:

"There is hereby created and established a Board of Governors of the Municipal Cemetery Fund, which shall consist of the City Clerk and five (5) other persons, who shall be appointed by the City Council to serve for terms of one (1) year from date of appointment. Four (4) members of the Board shall constitute a quorum. The Board shall have the right to establish rules and regulations for the management and control of any cemetery owned and operated by the City, and for the conduct of the Board's business, not inconsistent, however, with the provisions of this article, and in addition thereto, shall comply with, abide by and enforce the provisions and conditions of this article. Provided, however, that the Board shall have no right, power or authority to contract for expenditures, or to expend any money except insofar as permission to do so shall have been granted by Motion or Resolution of the City Council."

Section 6: Subsection A(1) of Section 10 Appendix A to the Zoning Regulations of the codified ordinances of the City of Boynton Beach, Florida pertaining to the Municipal Board of Adjustments, be and the same is hereby amended to read:

"Section 10. Board of Adjustments.

A. Composition and Procedure.

1. The Board of Adjustments shall consist of seven (7) regular members and not more than two (2) alternate members, who shall be appointed by the City Council, all of whom shall serve for terms of one (1) year from date

Boards shall terminate on the effective date of this ordinance. The members of said Boards shall thereupon be appointed by the City Council in accordance with the provisions of this ordinance. The terms of Board members appointed in 1977 shall expire on January 2, 1978.

Section 8: Separability: Each of the provisions of this ordinance is separable, including word, clause, phrase or sentence, and if any portion thereof shall be declared invalid, the remaining portion shall not be affected but shall remain in full force and effect.

Section 9: Repealing Provision: All ordinances of parts of ordinances in conflict herewith are hereby repealed.

Section 10: An Effective Date: This ordinance shall become effective in the manner and at the time provided by law.

Section 11: This ordinance is adopted pursuant to the provisions of Section 23 of the Codified Charter of the City of Boynton Beach, Florida.

First reading this 18th day of January, A.D., 1977.

Second, final reading and passage, this 8 day of February, A.D., 1977.

CITY OF BOYNTON BEACH, FLORIDA

By: Joseph J. Zack
Mayor

Emily M. Jackson
Vice Mayor

Joe De Marco
Councilmember

Leonard D. Caldwell
Councilmember

ORDINANCE NO. 78-11

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, ABOLISHING THE BUILDING, ELECTRICAL AND PLUMBING AND MECHANICAL EXAMINING BOARDS OF SAID CITY AND CREATING, IN LIEU THEREOF, THE BUILDING BOARD OF ADJUSTMENTS AND APPEALS; PROVIDING FURTHER FOR THE APPOINTMENT AND TERMS OF OFFICE OF THE MEMBERS OF SAID BOARD; FURTHER SETTING FORTH THE DUTIES AND RESPONSIBILITIES THEREOF; AND PROVIDING FOR A SAVING CLAUSE, REPEALING PROVISIONS, AUTHORITY TO CODIFY, AN EFFECTIVE DATE AND FOR OTHER PURPOSES.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1: Subsection 111 of Section 5-2 of Chapter 5 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Section 111. Building Board of Adjustments and Appeals.

111.1 ESTABLISHED; COMPOSITION; APPOINTMENT

There is hereby created and established a board designated as the Building Board of Adjustments and Appeals, which shall consist of five (5) members, who shall be appointed by and serve at the pleasure of the City Council. Said Board shall be composed of architects, engineers, general contractors and other citizens with sufficient knowledge and previous experience in the various trades connected with the building industry to be able to serve competently and efficiently.

111.2 TERM OF OFFICE; ALTERNATE MEMBERS; VACANCIES

Of the members first appointed to the Building Board of Adjustments and Appeals, one (1) shall serve for one (1) year, two (2) shall serve for two (2) years, and two (2) shall serve for three (3) years. Thereafter, members shall be appointed for three (3) year terms. In addition to the regular Board members, there shall be appointed two (2) additional members to be designated as alternate members to serve at meetings of the Board when necessary. Alternate members shall serve for two (2) years. Vacancies shall be filled for an unexpired term in the manner in which original appointments are required to be made. Continued absence of any member from regular meetings of the Board shall, at the discretion of the City Council, render any such member liable to immediate removal from office.

111.3 QUORUM

Four (4) members of the Board shall constitute a quorum. In varying the application of any provisions of this Code or in modifying an order of the Building Official, affirmative votes of the majority present, but not less than four (4) affirmative votes shall be required. No member shall act in a case in which he or she has a personal interest.

111.4 ORGANIZATION

The Board shall select its own chairman and vice chairman at an election beginning at date of organization, and annually thereafter. The Building Official shall act as secretary of the Board and shall make a detailed record of all of its proceedings, which shall set forth the reasons for its decisions, the vote of each member participating therein, the absence of a member and any failure of a member to vote.

111.5 PROCEDURAL RULES; MEETINGS

The Board shall establish rules and regulations for its own procedure not inconsistent with the provisions of this Code. The Board shall meet at regular intervals, to be determined by the chairman, or in any event, the board shall meet within ten (10) days after notice of appeal has been received."

Section 2: Subsection 112 of Section 5-2 of Chapter 5 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Section 112. Appeals to Building Board of Adjustments and Appeals.

112.1 RIGHT TO APPEAL

Whenever the Building Official shall reject or refuse to approve the mode or manner of construction proposed to be followed, or materials to be used in the erection or alteration of a building or structure, or when it is claimed that the provisions of this Code do not apply, or that an equally good or more desirable form of construction can be employed in any specific case, or when it is claimed that the true intent and meaning of this Code or any of the regulations thereunder have been misconstrued or wrongly interpreted, the owner of such building or structure, or his duly authorized agent, may appeal from the decision of the Building Official to the Building Board of Adjustments and Appeals.

112.2 NOTICE OF APPEAL; TIME LIMIT; EFFECT

(a) Notice of appeal shall be in writing on forms prescribed by the Board and filed within thirty (30) days after the decision is rendered by the Building Official. A filing fee in the amount of Twenty Five Dollars ($25.00) shall accompany such notice of appeal. The notice of appeal shall contain:

(1) A clear and concise statement of the order and decision of the Building Official sought to be reviewed and the date thereof.

(2) The reasons for which the appeal is taken and a definite and detailed statement of the relief sought from the Building Board of Adjustments and Appeals.

(3) The notice of appeal shall be signed by the appellant or his duly authorized agent, and it shall have appended to it copies of any plans, drawings, rules or regulations or other documents which would be pertinent and material to the hearing of the appeal.

(b) In case of a building or structure which, in the opinion of the Building Official, is unsafe or dangerous, the Building Official may, in his decision, limit the time for such appeal to a shorter period.

(c) An appeal to the Board shall not operate as a supersedeas or stay of any proceeding or action of the Building Department in the application or enforcement of any provision of this Code or any of the regulations promulgated thereunder.

112.3 HEARING; NOTICE

Upon the filing of an appeal, the Board shall set a date, time and place for the hearing of the matter to be reviewed, and notice thereof shall be given in writing to the party appealing. At the appointed time and place, the Board may hear and take such evidence as it feels is necessary, and the proceedings shall be conducted in the manner prescribed by the rules and regulations of the Board; or, in lieu thereof, the Board may conduct the proceedings in such order as would provide a fair and impartial hearing."

Section 3: Subsection 113 of Section 5-2 of Chapter 5 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Section 113. Decisions of Building Board of Adjustments and Appeals.

(a) The Building Board of Adjustments and Appeals, when so appealed to and after a hearing, may vary the application of any provision of this Code to any particular case when, in its opinion, the enforcement thereof would do manifest injustice, and would be contrary to the spirit and purpose of this Code or public interest, or when, in its opinion, the interpretation of the Building Official should be modified or reversed.

(b) A decision of the Building Board of Adjustments and Appeals to vary the application of any provision of this Code or to modify an order of the Building Official shall specify in what manner such variation or modification is made, the conditions upon which it is made and the reasons therefor.

(c) Every decision of the Building Board of Adjustments and Appeals shall be final and binding unless such decision is appealed to a court of law within thirty (30) days from the date it is rendered. It shall be in writing and shall indicate the vote upon the decision. Every decision shall be promptly filed in the office of the Building Official, and shall be open to public inspection; a copy shall be sent by mail or otherwise to the appelant.

(d) The Building Board of Adjustments and Appeals shall, in every case, reach a decision without unreasonable or unnecessary delay.

(e) If a decision of the Building Board of Adjustments and Appeals reverses or modifies a refusal, order, or disallowance of the Building Official, or varies the application of any provision of this Code, the Building Official shall immediately take action in accordance with such decision."

Section 4: Subsection 114 of Section 5-2 of Chapter 5 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Section 114. Violations and penalties.

Any person, firm, corporation or agent who shall violate a provision of this Code, or fail to comply therewith, or with any of the requirements thereof, or who shall erect, construct, alter, demolish or move any structure, or has erected, constructed, altered, repaired, moved or demolished a building or structure in violation of a detailed statement or drawing submitted and approved thereunder, shall be guilty of a misdemeanor. Each such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this Code is committed, or continued and upon conviction of any such violation such person shall be punished within the limits and as provided by State Laws."

Section 5: Paragraph (18) of Subsection 825.3 of Section 5-2 of Chapter 5 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"(18) MECHANICAL CONTRACTORS EXAMINERS BOARD

The Building Board of Adjustments and Appeals of the City of Boynton Beach, Florida, shall constitute the Mechanical Contractors Examiners Board of said City and all references to the Mechanical Contractors Examiners Board contained in this Code shall relate to the Building Board of Adjustments and Appeals."

Section 6: Section 5A-13 of Chapter 5A of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Sec. 5A-13. Building board.

The Building Board of Adjustments and Appeals of the City of Boynton Beach, Florida, shall constitute the Building board of said City and all references to the Building board contained in this Code shall relate to the Building Board of Adjustments and Appeals."

Section 7: Sections 5A-14, 5A-15 and 5A-16 of Chapter 5A of the Codified Ordinances of the City of Boynton Beach, Florida, are hereby repealed.

Section 8: Section 9-4 of Chapter 9 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Sec. 9-4. Electrical board.

The Building Board of Adjustments and Appeals of the City of Boynton Beach, Florida, shall constitute the Electrical board of said City and all references to the Electrical board contained in this Code shall relate to the Building Board of Adjustments and Appeals."

Section 9: Section 9-14 of Chapter 9 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Sec. 9-14. Revocation or suspension of electrical license.

(a) The Building Board of Adjustments and Appeals of the City of Boynton Beach, Florida, shall have the authority, in addition to all other authority provided for in this chapter, to subpoena anyone granted a license in accordance with the provisions of this chapter. The board may revoke or suspend any type of electrical license granted under this chapter, if found guilty of any one or more of the following acts or omissions, to wit:

(1) Fraud to deceit in obtaining his or its certificate or license, or both;

(2) Negligence, incompetency or misconduct in the practice of contracting or installing electrical work contrary to the city or National Electric Code.

(3) Fraudulent departure from or disregard of plans and specifications in any material respect, without consent of the owner or his duly authorized representative. Such departure shall have to have been approved by the building department in writing.

(b) Anyone whose license has been revoked, may again be licensed by applying to the board and conforming to section 9-5 of the City Electrical Code."

Section 10. Section 9-15 of Chapter 9 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Sec. 9-15. Appeals to Building Board of Adjustments and Appeals.

Any person whose application for any permit hereunder has been refused, or who feels aggrieved to any decision or action of the building official , or who may consider that the provisions of this Code do not cover the point raised, or that any particular provision would cause manifest injury to be done, may appeal to the Building Board of Adjustments and Appeals in writing in the manner and subject to the provisions set forth in Subsection 112 of Sec. 5-2 of Chapter 5 of this Code."

Section 11. Subsection 113 of Section 22-2 of Chapter 22 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Section 113. Plumbing board.

The Building Board of Adjustments and Appeals of the City of Boynton Beach, Florida, shall constitute the Plumbing board of said City and all references to the Plumbing board contained in this Code shall relate to the Building Board of Adjustments and Appeals. It shall be the duty of the Building Board of Adjustments and Appeals to prepare and administer examinations for "Journeyman Plumber" whenever such examinations are not available at the Palm Beach County Building and Zoning Department."

Section 12. Subsection 114 of Section 22-2 of Chapter 22 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Section 114. Appeals to Building Board of Adjustments and Appeals.

The Building Board of Adjustments and Appeals of the City of Boynton Beach, Florida, shall hear all appeals as set forth in the following sections."

Section 13. Subsection 115 of Section 22-2 of Chapter 22 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Section 115. Appellate procedure.

Whenever the Building Official shall reject or refuse to approve the mode or manner of construction of proposed plumbing work, or of materials to be used in plumbing work, or when it is claimed that the provisions of this Code do not apply, or when it is claimed that the true intent and meaning of this Code, or any of the regulations thereunder have been misconstrued or wrongly interpreted, the owner of the building or his duly authorized agent may appeal from the decision of the Building Official to the Building Board of Adjustments and Appeals in the manner and subject to the provisions set forth in Subsection 112 of Section 5-2 of Chapter 5 of this Code."

Section 14. Subsection 116 of Section 22-2 of Chapter 22 of the Codified Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

"Section 116. Decisions of the Building Board of Adjustments and Appeals.

The powers of the Building Board of Adjustments and Appeals of the City of Boynton Beach, Florida, and the effect of its decisions shall be as set forth under the provisions of Subsection 113 of Sec. 5-2 of Chapter 5 of this Code."

Section 15. Separability. Each of the provisions of this Ordinance are separable, including word, clause, phrase or sentence, and if any portion thereof shall be declared invalid, the remaining portion shall not be affected but shall remain in full force and effect.

Section 16: Authority to Codify: Specific authority is hereby granted to codify and incorporate this Ordinance in the City's existing Code.

Section 17: Repealing Provisions: All Ordinances or parts of Ordinances in conflict herewith are hereby repealed.

Section 18: Effective Date: This Ordinance shall become effective in the manner and at the time provided by law.

First reading this 17th day of February, 1976.

Second, final reading and passage this 16th day of March, 1976.

CITY OF BOYNTON BEACH, FLORIDA

By _____
Mayor

_____
Vice Mayor

_____
Councilman

_____
Councilman

_____
Councilman

ATTEST:

_____
City Clerk

RESOLUTION NO. R15-136

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, CREATING A COMMUNITY REDEVELOPMENT AGENCY ADVISORY BOARD; ESTABLISHING PROCEDURES FOR APPOINTMENT AND REMOVAL OF MEMBERS; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, the City Commission has determined that the interest of the City will best be served by creating an advisory board to provide input to the City Commission regarding matters related to the City's Community Redevelopment Agency.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "WHEREAS" clauses are true and correct and hereby ratified and confirmed by the City Commission

Section 2. There is hereby created a Community Redevelopment Advisory Board. The Advisory Board, at the direction of the City Commission, shall make recommendations on the programs; activities and funding issues affecting the implementation of the CRA Plan; Recommendations shall include but not be limited to, matters concerning land use and design regulations and applications; implementation programs and activities; budgets and funding.

Section 3. The Advisory Board will be comprised of seven (7) individuals with experience, education, or skills as determined necessary by the City Commission. ***Any person may be appointed to the Advisory Board if he or she resides or is engaged in business, which means owning a business, practicing a profession, or performing a service for compensation, or serving as an officer or director of a corporation or other business entity so engaged, within the City.*** 1

1 Italicized language added by amendment at time of adoption.

{00098510.2 306-9601821 }

No less than four (4) members of the Advisory Board shall be residents of the City. Advisory Board Members serve at the pleasure of the City Commission and may be removed by a majority of the Commission with or without a statement of cause.

Section 4. The Advisory Board and its individual members shall operate in the sunshine. Board members are subject to the Palm Beach County Code of Ethics. Appointees shall complete required ethics training prior to assuming the duties of appointment.

Section 5. Costs associated with the operation of the Advisory Board will be assessed to the Community Redevelopment Agency budget.

Section 6. That this Resolution will become effective immediately upon passage.

PASSED AND ADOPTED this 20th day of October, 2015.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Jerry Taylor	✓	
Vice Mayor – Joe Casello	✓	
Commissioner – David T. Merker		✓
Commissioner – Mack McCray	✓	
Commissioner – Michael M. Fitzpatrick	✓	
VOTE	4-1	

ATTEST:

Janet M. Prainito

Janet M. Prainito, MMC
City Clerk

(Corporate Seal)

S:\CC\WP\Resolutions\2015\R15-136 - CRAAB Board Reso (00098510-2xC4B6A) - Revised.doc

RESOLUTION NO. R17-020

A RESOLUTION OF THE CITY OF BOYNTON BEACH, FLORIDA, CREATING A CITIZEN OVERSIGHT COMMITTEE; PROVIDING FOR APPOINTMENT AND REMOVAL OF MEMBERS BY THE CITY MANAGER; PROVIDING FOR DUTIES; AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, in May 2016, Palm Beach County adopted an Ordinance calling for a Countywide Referendum to impose a countywide local government infrastructure surtax of one percent (1.0%) on all authorized taxable transactions occurring within Palm Beach County, as authorized by Section 212.055(2), Florida Statutes; and

WHEREAS, Voters approved the plan in the November 2016 General Election; and

WHEREAS, pursuant to the County Ordinance and the ballot language approved by the voters, City expenditures of Surtax proceeds shall be subject to independent oversight by citizen committees; and

WHEREAS, the City Commission has elected to create a City of Boynton Beach Citizens Oversight Committee appointed by the City Manager to serve as a reporting body to the City Commission.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing "WHEREAS" clauses are true and correct and hereby ratified and confirmed by the City Commission

Section 2. There is hereby created a five (5) member Citizens Oversight Committee comprised of individuals with experience, education, or skills as determined necessary by the City Manager. Members of the Committee shall be appointed and may be removed by the City Manager.

Section 3. The Committee shall meet at least twice annually and at such other times as deemed necessary by the City Manager or designee to conduct review of the City's list of approved infrastructure surtax expenditures. Meetings shall be scheduled by the City Manager or designee. The City Manager shall appoint a Chair and Vice-Chair.

Section 4. The Committee's duties are to:

1. Ensure that one hundred percent (100%) of proceeds are expended only for purposes permitted by law and consistent with the ballot measure: and
2. Ensure that expenditures are in compliance with the City's Surtax Use Plan: and
    a. Make annual reports to the City Commission and City Manager which shall include whether the City is in compliance with the requirements of the ballot measure.
    b. The report shall summarize the surtax funded projects and indicate the amount of funds used for each project, the status of the project on the reporting date and whether the surtax funds allocated to the project are sufficient to fund completing of the project.

Section 5. The Committee and its individual members shall operate in the sunshine. Committee Members are subject to the Palm Beach County Code of Ethics. Appointees shall complete required ethics training prior to assuming the duties of appointment.

Section 6. Costs associated with the operation of the Committee shall not be paid from the surtax funds.

Section 7. That this Resolution will become effective immediately upon passage.

PASSED AND ADOPTED this 21st day of February, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	✓	
Vice Mayor – Mack McCray	✓	
Commissioner – Justin Katz	✓	
Commissioner – Christina L. Romelus	✓	
Commissioner – Joe Casello	✓	

VOTE 5-0

ATTEST:

Judith A. Pyle

Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

ORDINANCE NO. 09-014

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING SECTION 2-119 (B) OF CHAPTER 2, ARTICLE VIII, "EDUCATION AND YOUTH ADVISORY BOARD" TO MODIFY THE ATTENDANCE POLICY; PROVIDING FOR CONFLICTS, SEVERABILITY, CODIFICATION AND AN EFFECTIVE DATE.

WHEREAS, the current absentee policy of the Education and Youth Advisory Board differs from the general board absentee policy which was established for all advisory boards which meet monthly; and

WHEREAS, the Education and Youth Advisory Board desires to adopt the standard attendance policy which will eliminate confusion and allow the members the same number of absences as all other advisory boards that meet monthly.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Ordinance upon adoption hereof.

Section 2. That Section 2-119 of Chapter 2, Article VII, "Education and Youth Advisory Board" is hereby amended by adding the words and figures in underlined type, and by deleting the words and figures in struck-through type as follows:

Sec. 2-119. Organization.

...

(b) ~~Any member failing to attend two (2) of three (3) successive meetings without cause and/or without prior approval of the chairperson of the board shall automatically forfeit his or her appointment.~~When a member has missed three (3) regular monthly meetings for any reason within one annual board term, that member will be notified that one additional absence will cause his/her board membership to be terminated and a replacement will be appointed at the tome of the next absence.

...

Section 5. Each and every other provision of the Code of Ordinances not herein specifically amended, shall remain in full force and effect as originally adopted.

Section 6. All laws and ordinances applying to the City of Boynton Beach in conflict with any provisions of this ordinance are hereby repealed.

Section 7. Should any section or provision of this Ordinance or any portion thereof be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this Ordinance.

Section 8. Authority is hereby given to codify this Ordinance.

Section 9. This Ordinance shall become effective immediately.

FIRST READING this 20 day of January, 2009.

SECOND, FINAL READING AND PASSAGE this 2ND day of February, 2009.

CITY OF BOYNTON BEACH, FLORIDA

Mayor – Jerry Taylor

Vice Mayor – Jose Rodriguez

Commissioner – Ronald Weiland

Commissioner – Woodrow L. Hay

Commissioner – Marlene Ross

ATTEST:

Janet M. Prainito, CMC
City Clerk

(Corporate Seal)

ORDINANCE NO. 07-004

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING SECTION 2-16 0F THE CODE OF ORDINANCES TO ADD A NEW SUB-SECTION (i) TO MODIFY THE COMMENCEMENT OF TERMS FOR BOARD APPOINTEES FROM APRIL TO DECEMBER TO COINCIDE WITH THE CITY ELECTION SEQUENCE; PROVIDING FOR CONFLICTS, SEVERABILITY, CODIFICATION AND AN EFFECTIVE DATE.

WHEREAS, the City Commission has determined that it is advantageous to allow for the appointment to City Boards to coincide with the election of City Commissioners, which occurs in November; and

WHEREAS, the previous time of appointment to City Boards coincided with municipal elections when they were held in April.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Ordinance upon adoption hereof.

Section 2. Section 2-16 of Chapter 2, "City Boards and Commissions" is hereby amended to add a new Subsection (i) to read as follows:

i. The City Commission shall fill vacancies on City Boards by making appointments in December following the City's November Commission elections, commencing with the City Commission election of November, 2007. To the extent necessary to transition from April to November appointments, the term of office for any Board Appointee which would expire in April 2008 or any April thereafter shall instead expire in the preceding November.

Section 3. Each and every other provision of the Code of Ordinances not herein

specifically amended, shall remain in full force and effect as originally adopted.

Section 4. All laws and ordinances applying to the City of Boynton Beach in conflict with any provisions of this ordinance are hereby repealed.

Section 5. Should any section or provision of this Ordinance or any portion thereof be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this Ordinance.

Section 6. Authority is hereby given to codify this Ordinance.

Section 7. This Ordinance shall become effective immediately.

FIRST READING this 2 day of January, 2007.

SECOND, FINAL READING AND PASSAGE this 16 day of January, 2007.

CITY OF BOYNTON BEACH, FLORIDA

Jerry Taylor
Mayor – Jerry Taylor

Vice Mayor – Jose Rodriguez

Ronald R. Weiland
Commissioner – Ronald Weiland

Commissioner – Mack McCray

Commissioner – Carl McKoy

ATTEST:

Janet M. Prairieto
City Clerk

(Co

S:\C ments.doc
1/17/2 ng
w/ addit ond reading

ORDINANCE NO. 07-001

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING SECTION 2-116 OF THE CITY OF BOYNTON BEACH CODE OF ORDINANCES TO PROVIDE FOR THE CREATION OF THE EDUCATION AND YOUTH ADVISORY BOARD; DELETING ARTICLE VIII, "EDUCATION ADVISORY BOARD" IN ITS ENTIRETY; AMENDING CHAPTER 2, ARTICLE VII CHANGING ALL BOARD REFERENCES FROM "CHILDREN AND YOUTH ADVISORY BOARD" TO "EDUCATION AND YOUTH ADVISORY BOARD"; PROVIDING FOR CONFLICTS, SEVERABILITY, CODIFICATION AND AN EFFECTIVE DATE.

WHEREAS, on June 20, 2006, the City Commission adopted Ordinance 06-050 which merged the powers and duties of the Children and Youth Advisory Board and the Education Advisory Board which became the Education and Youth Advisory Board; and

WHEREAS, some items, such as deletion of the section of the Code of Ordinances which refers to the Education Advisory Board is appropriate for the City of Boynton Beach's Code of Ordinance to be accurate.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Ordinance upon adoption hereof.

Section 2. Amending Chapter 2, Article VII, Section 2-116, Created, is hereby amended by adding the words and figures in underlined type, and by deleting the words and figures in struck-through type as follows:

Section 2-116. Created.

The City Commission, in accordance with the powers vested in it, hereby merges the Children and Youth Advisory Boards and the Education Advisory Board ~~creates~~ and establishes the~~a children~~Education and ~~y~~Youth ~~a~~Advisory ~~b~~Board.

Section 3. That Chapter 2, Article VIII, "Education Advisory Board" is hereby deleted in its entirety.

Section 4. Any and all references in the City of Boynton Beach Code of Ordinances to the Children and Youth Advisory Board shall be changed to reflect that it is now known as the Education and Youth Advisory Board.

Section 5. Each and every other provision of the Code of Ordinances not herein specifically amended, shall remain in full force and effect as originally adopted.

Section 6. All laws and ordinances applying to the City of Boynton Beach in conflict with any provisions of this ordinance are hereby repealed.

Section 7. Should any section or provision of this Ordinance or any portion thereof be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this Ordinance.

Section 8. Authority is hereby given to codify this Ordinance.

Section 9. This Ordinance shall become effective immediately.

FIRST READING this 2 day of January, 2007.

SECOND, FINAL READING AND PASSAGE this 16 day of January, 2007.

CITY OF BOYNTON BEACH, FLORIDA

Mayor – Jerry Taylor

Vice Mayor – Jose Rodriguez

Commissioner – Ronald Weiland

Commissioner – Mack McCray

Commissioner – Carl McKoy

ATTEST:

Janet M. Prainito
City Clerk

(Corporate Seal)

ORDINANCE NO. 06-050

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, CREATING A NEW SUBSECTION 2-123, WITHIN CHAPTER 2, "ADMINISTRATION," OF THE CODE OF ORDINANCES; PROVIDING FOR THE CONSOLIDATION OF THE CHILDREN AND YOUTH ADVISORY BOARD AND THE EDUCATION ADVISORY BOARD; AMENDING CHAPTER 2, ARTICLE VIII CHANGING ALL BOARD REFERENCES FROM "EDUCATION ADVISORY BOARD" TO "EDUCATION AND YOUTH ADVISORY BOARD"; PROVIDING FOR CONFLICTS, SEVERABILITY, CODIFICATION AND AN EFFECTIVE DATE.

WHEREAS, the Children and Youth Advisory Board and the Education Advisory Board both appointed by the City Commission and empowered with fact-finding and advisory functions; and

WHEREAS, the consolidation of the Children and Youth Advisory Board with the Education Advisory Board would facilitate the advisory function of those Boards; and

WHEREAS, the Education Advisory Board meets so infrequently that the transition of its responsibilities to the Children and Youth Advisory Board would not constitute additional burden on the Children and Youth Advisory Board; and

WHEREAS, the current number of active members of Education Advisory Board does not constitute a quorum for meetings the City Commission has experienced difficulty finding qualified individuals to serve on that Board as evidenced by the fact that there are currently no incoming applications for appointment to the Board;

WHEREAS, considerable administrative effort and cost is associated with maintaining and operating City boards, and the Commission finds that consolidation of the Children and Youth Advisory and the Education Advisory Boards would lessen the

administrative burden expended to support board action and board meeting activity;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1. The foregoing "Whereas" clauses are hereby ratified and confirmed as being true and correct and are hereby made a specific part of this Ordinance upon adoption hereof.

Section 2. Amending Chapter 2 Administration, by creating a new subsection 2-123, as follows:

2-123. Consolidation of Children and Youth Advisory Board and Education Advisory Board; survival of actions

All powers, duties, and responsibilities of the Education Advisory Board shall survive and be deemed merged and consolidated with the powers, duties and responsibilities of the Children and Youth Advisory Board. All previous actions of the Education Advisory Board shall survive this consolidation unless specifically revoked by the Children and Youth Advisory Board. The consolidated board shall be known as The Education and Youth Advisory Board. **All current members of the Children and Youth Advisory Board are appointed to the Education and Youth Advisory Board as voting members for the balance of their terms of appointment.**

Section 3. That Chapter 2, Article VII, "Children and Youth Advisory Board" is hereby amended by adding the words and figures in underlined type, and by deleting the words and figures in struck-through type as follows:

Chapter 2, Article VII, "Education and Youth Advisory Board"

...

Section 2-117. Duties.

The ~~Children~~ Education and Youth Advisory ~~b~~Board shall act as a fact finding and advisory board on the following issues and on such other issues as are, from time to time, designated by the City Commission by resolution:

(1) Development of programs that promote ongoing relationships with caring adults;

(2) Formulation of long and short range programming to benefit the children and youth of the community by involving parents, the business community, civic and neighborhood organizations, including volunteer recruiting for before and after local school programs.

(3) Development of incentives and enhancements ~~which would~~ encourage the development of safe places, including improved playgrounds at or near local schools and structured activities ~~in~~ during non-school hours. ~~and improved playgrounds at or near local schools.~~

(4) ~~(4)~~ Identification and dissemination of information on local, county, state and federal programs that provide beneficial services to children and their families. ~~and~~

(5) Developing strategies for communicating with the School Board of Palm Beach County and its staff, advising the City Commission as to the activities of the Board, and other Federal, State and local legislative bodies which affect the needs of students within the City.

(56) Development of child and youth advocacy programs.

(67) Contacting community groups and businesses within the geographical boundaries of Boynton Beach for professional skills, materials, financial or education support for the schools and with the purpose of implementing programs at local schools that benefit students from Pre K through grades 12 and vocational schools.

(78) Developing recommendations to the City Commission for forwarding to the School Board of Palm Beach County regarding actions which may be taken in support of schools in Boynton Beach with respect to proposed

legislation at the State level.

(89) Coordinating with the local police department to improve safety for students before, during and after school and developing public relations that highlight successful programs.

...

Section 4. That Chapter 2, Article VIII, "Education Advisory Board" is hereby amended by adding the words and figures in underlined type, and by deleting the words and figures in struck-through type as follows:

...

~~**Sec. 2-129. Organization.**~~

~~**(a) The education advisory board shall comprise seven (7) permanent members and two (2) alternate members, all to be appointed by the City Commission. Of the members so appointed, four (4) shall be for a term of three (3) years and three (3) shall be for a term of two (2) years. Their successors shall be appointed for a term of two (2) years. Alternate members shall be appointed for a period of one (1) year. There shall also be appointed two (2) high school seniors, who must reside within the city limits of the City of Boynton Beach and who must attend a public school in Palm Beach County to serve for a term of one (1) year, to be selected by the City Commission. All terms shall expire in the month of April. Student members of the Education Advisory Board shall enjoy the right to vote, the same right that is currently enjoyed by regular voting members of the Children and Youth Advisory Board.**~~

~~...~~

~~**Sec. 2-131. Qualification.**~~

~~**The members of the Education Advisory Board shall be residents of the City provided that one (1) regular member and any alternate of the Board may be non-**~~

~~residents of the City, provided that one (1) regular member and any alternate members of the Board may be non-residents of the City provided the member has at least one child in public school, which is located within the geographical boundaries of the City.~~

Section 5. Each and every other provision of the Code of Ordinances not herein specifically amended, shall remain in full force and effect as originally adopted.

Section 6. All laws and ordinances applying to the City of Boynton Beach in conflict with any provisions of this ordinance are hereby repealed.

Section 7. Should any section or provision of this Ordinance or any portion thereof be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this Ordinance.

Section 8. Authority is hereby given to codify this Ordinance. The City Clerk and editors of the Code of Ordinance are authorized to merge Section 2-126 through 2-140 of the Code into the Code section titled (as amended herein) "Education and Youth Advisory Board" and to eliminate the section titled " Education Advisory Board".

Section 9. This Ordinance shall become effective immediately.

FIRST READING this 6 day of June, 2006.

SECOND, FINAL READING AND PASSAGE this 20 day of June, 2006.

CITY OF BOYNTON BEACH, FLORIDA

Mayor – Jerry Taylor

Vice Mayor – Carl McKoy

Commissioner – Robert Ensler

Commissioner – Mack ~~Mc~~Cray

Commissioner – Muif C. Ferguson

ATTEST:

City Clerk

(Co

ORDINANCE NO. 091-24

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, ESTABLISHING AN EDUCATION ADVISORY BOARD; PROVIDING FOR PURPOSE; PROVIDING FOR ORGANIZATION; PROVIDING FOR QUALIFICATIONS OF BOARD MEMBERS; PROVIDING FOR TERMS OF OFFICE; PROVIDING FOR POWERS OF THE BOARD; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Boynton Beach, Florida has duly considered the Report of the Findings and Recommendations to the City Commission submitted by the Greater Boynton Beach Education Committee on April 16, 1991; and

WHEREAS, the City Commission of the City of Boynton Beach, Florida, deems it to be in the best interests of the citizens of the City to establish an Education Advisory Board which shall serve as a fact-finding and advisory board to the City Commission on issues related to local schools within the Greater Boynton Beach Area.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The "WHEREAS" clauses are hereby ratified and confirmed as being true and correct.

Section 2. CREATION. The City Commission, in accordance with the powers vested in it, hereby creates and establishes an Education Advisory Board.

Section 3. DUTIES. The Education Advisory Board shall act as a fact-finding and advisory board on the following issues and on such other issues as are, from time to time, designated by the City Commission by Resolution:

To assist City and local schools in:

A. Recruiting volunteers to assist students before, during and after school;

B. Contacting businesses within the geographical borders of Boynton Beach for professional skills, materials, financial or educational support for the schools.

C. Coordinating with local police department to improve safety for students before, during and after school.

D. Coordinating with City's Parks and Recreation Department to improve playgrounds at or near local schools.

E. Contacting the Greater Boynton Beach Chamber of Commerce, Real Estate Groups, and other community groups for the purpose of implementing programs at local schools that benefit students from Pre K through grades 12 and vocational schools.

F. Communicating with the School Board of Palm Beach County and its staff, and advising the City Commission as to the activities of the School Board, and other Federal, State and local legislative bodies which affect the needs of Boynton Beach Students.

G. Developing public relations that highlight successful programs within the schools and to help improve their image in conjunction with local media.

H. Developing recommendations to the City Commission for forwarding to the School Board of Palm Beach County regarding actions which may be taken in support of schools in Boynton Beach and with respect to proposed legislation at the State level.

Section 4. RECOMMENDATIONS OF BOARD. The Board shall periodically advise the City Commission of its findings with respect to the foregoing issues and shall make recommendations to the City Commission on any matter referred to it within thirty (30) days or within such time as prescribed by the City Commission by specific Resolution.

Section 5. ORGANIZATION.

A. The Education Advisory Board shall be comprised of nine (9) permanent members and two (2) alternate members, all to be appointed by the City Commission, provided two (2) members shall be from the Coalition of Boynton West Residential Associations, Inc. (COBWRA). Of the members so appointed, four (4) shall be for a term of three (3) years, three shall be for a term of two (2) years, and the COBWRA members shall be for a term of one (1) year. Their successors shall be appointed for a term of two (2) years.

Alternate members shall be appointed for a period of one (1) year.

B. Any member failing to attend two (2) of three (3) successive meetings without cause and/or without prior approval of the Chairperson of the Board shall automatically forfeit his or her appointment.

C. Any member of the Board may be removed for cause in accordance with State Law. The City Commission shall promptly fill any vacancy.

D. At the organizational meeting of the Board a Chairperson and Vice-Chairperson shall be selected by majority vote of the Board. The Chairperson and Vice-Chairperson shall be selected annually at the May meeting of the Board.

Section 6. MEETINGS. The Board shall meet regularly once a month, or more frequently if necessary, for the transaction of business. Its meetings shall be open to the public. The Board may establish its own meeting rules and procedures for the conduct of its business. Four (4) members shall constitute a quorum.

Section 7. QUALIFICATION. Except for the two COBWRA members, the members of the Education Advisory Board shall be residents of the City of Boynton Beach, Florida.

Section 8. POWERS. Nothing in this Ordinance shall be construed as restricting or curtailing any of the powers of the City Commission, or as a delegation to the Board of any of the authority or discretionary powers vested and imposed by law in the City Commission. The City Commission declares that public interest, convenience and welfare required the appointment of the Board to act in a purely advisory capacity to the City Commission for the purposes set forth in this Ordinance. Any powers delegated here to the Board to adopt rules and regulations shall not be construed as a delegation of legislative authority, but purely a delegation of administrative authority.

Section 9. That all ordinances or parts of ordinances in conflict herewith be and the same are hereby repealed.

Section 10. Should any section or provision of this ordinance or portion hereof, any paragraph, sentence, or word be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this ordinance.

Section 11. Authority is hereby granted to codify said ordinance.

Section 12. This ordinance shall become effective immediately upon passage.

FIRST READING this 7 day of MAY, 1991.

SECOND, FINAL READING and PASSAGE this 21 day of MAY, 1991.

CITY OF BOYNTON BEACH, FLORIDA

Mayor

Vice Mayor

Commissioner

Commissioner

Commissioner

ATTEST:

Shannon Burkett
City Clerk (Deputy)

(Corporate Seal)

EDUCATE.ORD
4/25/91-YMT
Rev.4/30/91

BOYNTON BEACH MUNICIPAL GOLF COURSE
ADVISORY COMMITTEE - OPERATING STATEMENT

I. CREATION

R90 8720

The Boynton Beach Municipal Golf Course Advisory Committee was created through the terms of a lease agreement executed by the Board of County Commissioners of Palm Beach County and the Mayor and City Council of Boynton Beach, dated February 12, 1980. Through the terms of the lease agreement, the City has established this Advisory Committee to "advise the City on planning, construction, maintenance and operation of the golf course."

II. MEMBERSHIP

The membership of the Boynton Beach Municipal Golf Course Advisory Committee, in accordance with the lease agreement referenced above, has five members -- three of whom are appointed by the City and two of whom are appointed by the County.

In addition, the Committee has three alternates, two (2) appointed by the City and one (1) by the County. Alternates will substitute for absent members as needed at each meeting. City alternates, only, will replace absent City members and the County alternate, only, will replace an absent County member.

Candidates for membership, or as alternates, must submit in writing, an indication of their interest in serving on the committee. The written submission must include information that outlines the candidates specific knowledge and experience that is directly related to golf course operation.

III. TERMS OF MEMBERSHIP

The five members first appointed shall serve through the first year of golf course operation and for staggered terms of one, two, three, four, or five years thereafter. Subsequent appointments shall be for overlapping five year terms.

In making the initial appointment, the City will indicate which member will have a term of one year, a term of three years and a term of five years. In making its initial appointments of two members, the Board of County Commissioners will indicate which member should serve a term of two years or a term of four years. At the completion of the terms as indicated above, each subsequent appointment will be for five years.

All alternate appointments will be for a period of five years.

IV. CHAIRMAN

The Chairman shall be selected annually by the members of the Advisory Committee from its own membership and may be re-elected as Chairman.

The first meeting of the Advisory Committee will be convened and chaired by the Mayor of the City of Boynton Beach. The second meeting of the Advisory Committee will be held as determined by the members at the first meeting. The first Chairman will be selected at the second meeting of the Advisory Committee. The second meeting will be chaired by the Mayor of the City of Boynton Beach for the purpose of convening the meeting and electing the Chairman.

V. PURPOSE

The purpose of the Boynton Beach Municipal Golf Course Advisory Committee is to advise the City, through the Mayor and City Council, on planning, construction, maintenance and operation (other than personnel matters which are guided through the Boynton Beach Civil Service Rules and Regulations) of the golf course. The Mayor and City Council will be responsible for all planning implementation, financial and operating matters of the golf course, which will be administered by the City Manager through the City staff. The Golf Course Manager, and other City Staff as directed by the City Manager, will meet with the Advisory Committee to provide information as needed.

VI. LEASE AGREEMENT

Attached to this Operating Statement and made a part hereof is the lease agreement between the City and the County dated February 12, 1980.

VII. APPROVAL

This **amended** Operating Statement is approved by the Board of County Commissioners on this_____day of MAY 22 1990, 1990.

This **amended** Operating Statement is approved by the City **Commission** of the City of Boynton Beach this_____day of_____, 1990.

PALM BEACH COUNTY FLORIDA, BY ITS BOARD OF COUNTY COMMISSIONERS

ATTEST:

JOHN B. DUNKLE, CLERK

BY Michelle P. Brown

(SEAL)

BY Carol Elizabeth

CHAIRMAN R90 8720

ATTEST:

BY: Betty S. Boroni
City Clerk

(SEAL)

CITY OF BOYNTON BEACH, FLORIDA

BY _____
Mayor

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

BY Raymond R

APPROVED AS TO FORM AND LEGAL SUFFICIENCY

Kathleen M. Scarlett
COUNTY ATTORNEY

ORDINANCE 11-007

ORDINANCE OF THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING PART III, LAND DEVELOPMENT REGULATIONS, CHAPTER 1, "GENERAL ADMINISTRATION", ARTICLE VII, "ADMINISTRATIVE AND DECISION MAKING BODIES", SECTION 4, 'HISTORIC RESOURCES PRESERVATION BOARD", SUB-SECTION B. "ESTABLISHMENT, COMPOSITION AND TERMS" REVISING THE RESIDENCY REQUIREMENTS FOR BOARD MEMBERS; PROVIDING FOR CONFLICT, SEVERABILITY, INCLUSION; AND EFFECTIVE DATE.

WHEREAS, at the Commission meeting of January 18, 2011, the City Commission determined that in order to insure the Historic Resources Preservation Board attracted persons with requisite skills and expertise in historic preservation they did not want to restrict membership on the Board to City residents or business owners; and

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1. That the foregoing "WHEREAS" clause is true and correct and hereby ratified and confirmed by the City Commission.

Section 2. That Part III, "Land Development Regulations", Chapter 1, "General Administration", Article VII, "Administrative And Decision Making Bodies", Section 4, 'Historic Resources Preservation Board", Sub-Section B. "Establishment, Composition And Terms" of the Code of Ordinances of the City of Boynton Beach is hereby amended as follows:

> **B. Establishment, Composition and Terms.** The Historic Resources Preservation Board shall consist of seven (7) members and two (2) alternate members who shall be appointed by the City Commission. Members need not be residents or owners of businesses that are within the City, but preference shall be given to individuals who ~~shall~~ reside or have a principal place of business in the City. A minimum of two (2) members shall be chosen from among the disciplines of architecture, history, architectural history, archaeology, landscape architecture or planning. A minimum of three (3) additional members of the Board shall be experienced in the areas of commercial development, real estate, banking or law. The two (2) remaining members shall be citizen members at large. The two (2)

alternate members shall be from any of the foregoing professions or citizen members at large. All members shall have demonstrated a special interest, experience or knowledge in historic preservation or closely related disciplines.

Members of the Board shall serve three (3) year terms. Of the initial appointments, four (4) members shall be appointed for a term of three (3) years and three (3) members shall be appointed for a term of two (2) years. Alternate members shall be appointed for a term of two (2) years. Vacancies on the Board, including expired terms shall be filled by persons with the same background as the original appointee, or related field, in order to maintain the desired Board makeup.

Section 3. All prior ordinances or resolutions or parts thereof in conflict herewith are hereby repealed to the extent of such conflict.

Section 4. If any section, sentence, clause, or phrase of this Ordinance is held to be invalid or unconstitutional by any court of competent jurisdiction, then said holding shall in no way affect the validity of the remaining portions of this Ordinance.

Section 5. It is the intention of the City Commission of the City of Boynton Beach, Florida, that the provisions of this Ordinance shall become and be made a part of the City of Boynton Beach Code of Ordinances; and that the sections of this ordinance may be renumbered or relettered and the word "ordinance" may be changed to "section," "article," or such other appropriate word or phrase in order to accomplish such intentions.

Section 6. This Ordinance shall be effective immediately after adoption by the City Commission.

FIRST READING this 1ST day of February, 2011.

SECOND AND FINAL READING ADOPTED this 15th day of February, 2011.

CITY OF BOYNTON BEACH, FLORIDA

Mayor – Jose Rodriguez

Vice Mayor – Marlene Ross

Commissioner – William Orlove

Commissioner – Woodrow L. Hay

Commissioner – Steven Holzman

ATTEST:

Janet M. Prainito, MMC
City Clerk

(Corporate Seal)

S:\CA\Ordinances\Ordinance - Historic Pres Board - residency.doc

ORDINANCE NO. 8523

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING CHAPTER 12. LIBRARIES, SECTION 12-1. BOARD CREATED; MEMBERSHIP; TERMS; VACANCIES, OF THE CODE OF ORDINANCES TO PROVIDE THAT ALL MEMBERS OF THE BOARD SHALL SERVE STAGGERED TERMS RANGING FROM ONE TO THREE YEARS, TO BE FOLLOWED BY TERMS OF THREE (3) YEARS THEREAFTER; PROVIDING THAT EACH AND EVERY OTHER PROVISION OF CHAPTER 12. LIBRARIES, SHALL REMAIN IN FULL FORCE AND EFFECT AS PREVIOUSLY ENACTED; PROVIDING A CONFLICTS CLAUSE, A SEVERABILITY CLAUSE, AUTHORITY TO CODIFY, AND AN EFFECTIVE DATE; AND FOR OTHER PURPOSES.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1: Chapter 12. Libraries, Section 12-1. Board created; membership; terms; vacancies of the Code of Ordinances of the City of Boynton Beach, Florida, is hereby amended to read as follows:

Section 12-1. Board created; membership; terms; vacancies.

There is hereby established a Library Board, hereinafter referred to as the "Board". The Board shall consist of seven (7) members who shall be appointed by the City Council ~~to serve for terms of one year from the date of appointment~~. Two (2) members of the Board shall serve for a term of one (1) year from the date of appointment; three (3) members shall serve for a term of two (2) years from the date of appointment; and two (2) members shall serve for a term of three (3) years from the date of appointment. Vacancies created after expiration of these terms shall be filled by appointments of three (3) year terms.

In the case of a vacancy by resignation, removal or otherwise, the City Council shall fill such vacancy by appointment for the remainder of the original Board Member's term.

Section 2: Each and every other provision of Chapter 12. Libraries, shall remain in full force and effect as previously enacted.

Section 3: All ordinances or parts of ordinances in conflict herewith are hereby repealed.

FIRST READING this 19th day of March, 1985.

SECOND READING and FINAL PASSAGE this 2nd day of April, 1985.

CITY OF BOYNTON BEACH, FLORIDA.

Nick Cassandra
MAYOR

VICE MAYOR

Carl Zimmerman
COUNCIL MEMBER

COUNCIL MEMBER

COUNCIL MEMBER

ATTEST:

Suzanne M Kruse
CITY CLERK DEPUTY

(Seal)

ORDINANCE NO. 77-5

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA AMENDING THE FOLLOWING SECTIONS OF THE CODIFIED ORDINANCES OF THE CITY OF BOYNTON BEACH, FLORIDA: SEC. 2-31 AND SEC. 2-33, PERTAINING TO LIBRARY BOARD: SEC. 2-41, PERTAINING TO PLANNING AND ZONING BOARD: SEC. 2-51, PERTAINING TO RECREATION AND PARKS BOARD: SUB. SEC. 111.1 AND 111.2 OF SEC. 5-2, PERTAINING TO BUILDING BOARD OF ADJUSTMENTS AND APPEALS; SEC. 6-17, PERTAINING TO MUNICIPAL CEMETERY BOARD, AND SEC. 10-A (1) APPENDIX A, ZONING REGULATIONS PERTAINING TO BOARD OF ADJUSTMENTS, TO PROVIDE FOR UNIFORM TERMS OF THE MEMBERS OF SAID ADVISORY BOARDS, PROVIDING FOR SAVINGS CLAUSE, REPEALING PROVISION, AN EFFECTIVE DATE AND FOR OTHER PURPOSES.

WHEREAS, the City Council of the City of Boynton Beach, Florida, deems it proper for the efficient operation and administration of the municipal government that various of the appointed citizen advisory boards consist of members, the terms of which shall be uniform, and that necessary amendments to existing ordinances be enacted to carry said purpose and intent into effect;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1: That Section 2-31 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to the Municipal Library Board, be and the same is hereby amended to read:

"Section 2-31. Creation; Members; Terms.

There is hereby established a Library Board, hereinafter referred to as "Board". The Board shall consist of seven (7) members who shall be appointed by the City Council to serve for terms of one (1) year from date of appointment.

In the case of vacancy by resignation, removal or otherwise, the City Council shall fill such vacancy by appointment."

Planning and Zoning Board, be and the same are hereby amended to read:

"Pursuant to the provisions of Section 23 of the Charter of the City of Boynton Beach, Florida, there is hereby created a Municipal Planning and Zoning Board, which shall consist of seven (7) members to be appointed by the City Council, to serve for terms of one (1) year from date of appointment. If a vacancy shall occur on said Board, same shall be filled by appointment by the City Council. Members of the Board may be removed by a majority vote of the total members of the City Council."

Section 3: Section 2-51 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to Recreation and Parks Board, be and the same is hereby amended to read:

"Section 2-51. Creation; Members; Qualifications.

There is hereby established a Recreation and Parks Board, hereinafter referred to as "Board", which Board shall consist of seven (7) members. The City Council shall appoint the members of said Board, which shall serve for terms of one (1) year from date of appointment. Members of the Board shall be residents of the City of Boynton Beach, Florida."

Section 4: Subsection 111.1 of Section 5-2 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to the Building Board of Adjustments and Appeals, be and the same is hereby amended to read: "There is hereby created and established a Board designated as the Building Board of Adjustments and Appeals, which shall consist of five (5) members, who shall be appointed by the City Council to serve for terms of one (1) year from date of appointment. Said Board shall be comprised of citizens with sufficient knowledge and previous experience in the various trades connected with the building industry to be able to serve competently and efficiently. If

Subsection 111.2 of Section 5-2 of the codified ordinances of the City of Boynton Beach, Florida, be and the same is hereby repealed in its entirety.

Section 5: The first paragraph of Section 6-17 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to the Municipal Cemetery Board, be and the same is hereby amended to read:

"There is hereby created and established a Board of Governors of the Municipal Cemetery Fund, which shall consist of the City Clerk and five (5) other persons, who shall be appointed by the City Council to serve for terms of one (1) year from date of appointment. Four (4) members of the Board shall constitute a quorum. The Board shall have the right to establish rules and regulations for the management and control of any cemetery owned and operated by the City, and for the conduct of the Board's business, not inconsistent, however, with the provisions of this article, and in addition thereto, shall comply with, abide by and enforce the provisions and conditions of this article. Provided, however, that the Board shall have no right, power or authority to contract for expenditures, or to expend any money except insofar as permission to do so shall have been granted by Motion or Resolution of the City Council."

Section 6: Subseetion A(1) of Section 10 Appendix A to the Zoning Regulations of the codified ordinances of the City of Boynton Beach, Florida pertaining to the Municipal Board of Adjustments, be and the same is hereby amended to read:

"Section 10. Board of Adjustments.

A. Composition and Procedure.

1. The Board of Adjustments shall consist of seven (7) regular members and not more than two (2) alternate members, who shall be appointed by the City Council, all of whom shall serve for terms of one (1) year from date

Boards shall terminate on the effective date of this ordinance. The members of said Boards shall thereupon be appointed by the City Council in accordance with the provisions of this ordinance. The terms of Board members appointed in 1977 shall expire on January 2, 1978.

Section 8: Separability: Each of the provisions of this ordinance is separable, including word, clause, phrase or sentence, and if any portion thereof shall be declared invalid, the remaining portion shall not be affected but shall remain in full force and effect.

Section 9: Repealing Provision: All ordinances of parts of ordinances in conflict herewith are hereby repealed.

Section 10: An Effective Date: This ordinance shall become effective in the manner and at the time provided by law.

Section 11: This ordinance is adopted pursuant to the provisions of Section 23 of the Codified Charter of the City of Boynton Beach, Florida.

First reading this 18th day of January, A.D., 1977.

Second, final reading and passage, this 8 day of February, A.D., 1977.

CITY OF BOYNTON BEACH, FLORIDA

By: Joseph A. Zack
Mayor

Emily M. Jackson
Vice Mayor

Joe DeMarco
Councilmember

Richard Dillwood
Councilmember

ORDINANCE 64-2

AN EMERGENCY ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, PROVIDING FOR THE APPOINTMENT OF TWO ADDITIONAL MEMBERS TO THE MUNICIPAL LIBRARY BOARD OF THE SAID CITY; FURTHER PROVIDING FOR THE AUTHORITY TO CODIFY, A SAVINGS CLAUSE, AN EFFECTIVE DATE AND FOR OTHER PURPOSES.

PREAMBLE

THIS ORDINANCE IS DEEMED TO BE AN EMERGENCY ORDINANCE ENACTED FOR THE PRESERVATION OF THE PUBLIC PEACE, PROPERTY, HEALTH AND SAFETY OF THE INHABITANTS OF THE CITY OF BOYNTON BEACH, FLORIDA, AND FOR THE EFFICIENT DAILY OPERATION OF THE ADMINISTRATIVE DEPARTMENTS OF THE CITY OF BOYNTON BEACH, FLORIDA.

NOW THEREFORE, be it ordained by the City Council of the City of Boynton Beach, Florida:

Section 1: Section 2-31 of the Codified Ordinances of the City of Boynton Beach, Florida, be and the same is hereby amended to read:

Section 2-31: Creation; membership; terms. There is hereby established a library board hereinafter referred to as "board." The board shall consist of five (5) members who shall be appointed by the City Council. All members of the board initially appointed shall serve until the date of the first meeting of the City Council in January, 1962, on which date three (3) members of the board shall be appointed for a term of two (2) years and the remaining two (2) members shall be appointed for a term of one (1) year. Thereafter, members shall be appointed for a term of two (2) years, or until their successors have been appointed and qualified. In the case of vacancy by resignation, removal or otherwise, the City Council shall fill such vacancy

shall serve the pleasure of the City Council; however their terms shall not exceed a period of one (1) year from the date of their appointment. No such specially appointed members shall be disqualified from appointment to a regular membership on the board upon expiration of their appointed terms. In the event the City Council does appoint two additional members of the board, four members of the entire board shall constitute a quorum rather than as provided for in Section 2-33 hereinafter.

Section 2: Repealing Provisions. All ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 3: Separability. If any section, sub-section, clause, phrase or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate distinct and independent provision and such holding shall not affect the validity of the remaining provisions thereof.

Section 4: Authority to Codify. Specific authority is hereby granted to codify this ordinance.

Section 5. Effective Date. This ordinance is deemed to be an emergency measure and shall take effect immediately upon passage.

First reading and final passage this 20th day of JANUARY 1964.

(CORPORATE SEAL)

CITY OF BOYNTON BEACH, FLORIDA

BY Gillison Banks
Mayor

James J. Mahoney
Vice Mayor

Walter A. Madsen
Councilman

ORDINANCE NO. 61-8

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, ESTABLISHING A LIBRARY BOARD, DEFINING ITS POWERS AND DUTIES AND FOR OTHER PURPOSES.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA:

SECTION 1. LIBRARY BOARD ESTABLISHED: There is hereby established a Library Board hereinafter referred to as "BOARD". The Board shall consist of five (5) members which shall be appointed by the City Council. All members of the Board initially appointed shall serve until the date of the first meeting of the City Council in January, 1962, on which date three (3) members of the Board shall be appointed for a term of two (2) years and the remaining two (2) members shall be appointed for a term of one (1) year. Thereafter, members shall be appointed for a term of two (2) years, or until their successors have been appointed and qualified. In the case of vacancy by resignation, removal or otherwise, the City Council shall fill such vacancy for the unexpired term.

SECTION 2. QUALIFICATION OF BOARD MEMBERS, COMPENSATION and ORGANIZATION: Members of the Board shall be residents of the City of Boynton Beach; however, neither the Mayor nor any member of the City Council shall be eligible to be a member of the Board. No member of the Board shall receive any pay or compensation for any services rendered as a member of such Board. The members of the Board shall, immediately after their appointment, meet and organize by electing one of their members as Chairman and such other officers as the Board may deem necessary.

SECTION 3. QUORUM, BY-LAWS, RULES AND REGULATIONS: Three (3) members of the Board shall constitute a Quorum. The Board may make and adopt such by-laws, rules and regulations for their own guidance and for the government and operation of any municipal library and reading room in the City of Boynton Beach, Florida, as they may deem expedient, subject to the approval, supervision and control of the City Council and not inconsistent with law.

SECTION 4. POWERS AND DUTIES: Subject to the control and direction of the City Council, the Board:

(a) Shall act in an advisory capacity (non-administrative) to the City Council, to assure representation of the ideas of citizens and taxpayers of the City relative the function and operation of municipal libraries and reading rooms in the City of Boynton Beach, Florida, and such advisory assistance shall include, but not be limited to, recommendations relative control of expenditures of monies collected, or donated to the credit of any municipal library in this City and the supervision, care and custody of the grounds, rooms, property and buildings constructed, leased, or set aside for municipal library purposes.

(b) Shall make recommendations for the appointment of a suitable Librarian and assistants and their respective rates of compensation; establish regulations for the government and control of any municipal library as may be deemed necessary for its preservation and to maintain its usefullness and efficiency; fix and impose by general rules, penalties and forfeitures for failure to return any book or for violation of any by-laws or regulations of the Board.

(c) Shall annually in an advisory capacity assistthe City Manager in preparing a budget for the maintenance and expansion of municipal library facilities.

(d) Shall keep records, inventories and accounts, budgetary or otherwise, of all of the activities of the Board and the municipal library system and make annual reports to the City Manager and the City Council relative thereto or whenever requested to do so by the Council.

SECTION 5. MEETINGS OF THE BOARD: In the performance of their duties set forth in this ordinance, the Board shall hold at least one (1) regular meeting each month. Special meetings may be called by the Board Chairman upon prior notification. Minutes shall be kept during all meetings and a copy given to the City Manager and the City Council.

SECTION 6. REMOVAL OF MEMBERS, VACANCIES: Members of the Board may be removed by an affirmative vote of a majority of the total members of the City Council.

SECTION 7. PENALTIES FOR VIOLATION: It is hereby declared unlawful for any person to trespass, cause injury to, or to destroy any library grounds, rooms, books or other property constituting a part of the municipal library system of the City of Boynton Beach, Florida, or to violate any of the by-laws or regulations adopted by the Library Board and

approved by the City Council relative operation of said municipal library system. Any person or persons found guilty of violating this Section shall be punished by fine of not less the $5.00 nor more than $500.00, or by imprisonment in the city jail not exceeding ninety (90) days, or both such fine and imprisonment, at the discretion of the Court.

SECTION 8. SEVERABILITY: Each of the provisions of this ordinance are separable including word, phrase, clause or sentence, and if any provisions hereof shall be declared invalid, the remaining portion shall not be affected but shall remain in full force and effect.

SECTION 9. REPEALING PROVISION: All ordinances or parts of ordinances in conflict herewith are hereby repealed.

First reading this 3rd day of April, A. D. 1961.

Second Final reading and passage, this 17 day of April A. D. 1961.

CITY OF BOYNTON BEACH, FLORIDA

(CORPORATE SEAL)

By _____
Mayor

_____
Vice-Mayor

_____
Councilman

ATTEST: _____
City Clerk

_____
Councilman

_____
Councilman

ORDINANCE NO. 092-10

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, CREATING A PLANNING AND DEVELOPMENT BOARD; PROVIDING FOR MEMBERSHIP QUALIFICATION TO THE BOARD; PROVIDING FOR PROCEDURES FOR APPOINTMENT OF MEMBERS, ALTERNATE MEMBERS AND FOR FILLING VACANCIES ON THE BOARD; PROVIDING FOR PROCEDURES FOR THE CONDUCT OF THE MEETINGS OF THE BOARD; PROVIDING FOR JURISDICTION OF THE BOARD; PROVIDING FOR POWERS OF THE BOARD; PROVIDING FOR DESIGNATION OF THE BOARD AS THE LOCAL PLANNING AGENCY; PROVIDING FOR APPEAL OF BOARD DECISIONS; ABOLISHING THE PLANNING AND ZONING BOARD; ABOLISHING THE COMMUNITY APPEARANCE BOARD; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; PROVIDING FOR CODIFICATION; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Boynton Beach, Florida, has determined a more expeditious and efficient procedure is advisable for processing development and planning applications through the City Administration and the review and advisory Boards of the City; and

WHEREAS, the existing current procedures, which require independent review of development proposals by both the Planning and Zoning Board and the Community Appearance Board create the unnecessary duplication of work by the City administrative staff; and

WHEREAS, the consolidation of powers of the Planning and Zoning Board and the Community Appearance Board would better serve the public interests by expediting the development review process and at the same time diminishing the administrative costs associated with reviewing and processing applications; and

WHEREAS, the City Commission pursuant to the power vested in it by Section 23 of the City Charter has the power to create and abolish offices and appoint officers as may in their judgment be necessary for the government of the City;

CODING: Words in ~~struck-through~~ type are deletion from existing law;
Words in <u>underscore</u> type are additions.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. Each "WHEREAS" clause set forth above is true and correct and herein incorporated by this reference.

Section 2. Establishment and Composition.

A. A City of Boynton Beach Planning and Development Board is hereby created and established, consisting of seven (7) regular members and two (2) alternate members appointed by the City Commission of the City of Boynton Beach, Florida.

B. The Mayor and City Commission shall appoint the members of the Planning and Development Board in accordance with the appointment procedures followed by the Commission. The nomination shall be subject to the confirmation of a majority vote of the City Commission.

C. All members of the Planning and Development Board must be residents of the City of Boynton Beach, Florida.

D. The Commission in appointing members to the Planning and Development Board shall give preference, when possible, to design professionals licensed in the disciplines of architecture, landscape architecture, landscape design, and planning.

Section 3. The Terms of Offices; Removal from Office; Vacancies:

A. On first appointment to the Board, three (3) members and two (2) alternate members shall each have an initial term of one (1) year. On first appointment to the Board, four (4) members shall have two (2) year terms. Thereafter, the term of office for each member of the Planning and Development Board shall be two (2) years. Subsequent alternate members shall be appointed for one (1) year terms.

B. The members of the Planning and Development Board shall hold office until the first Tuesday in April of the year

CODING: Words in ~~struck-through~~ type are deletion from existing law;
Words in underscore type are additions.

such members term expires. Each member shall hold office until his successor is duly appointed and qualified. Any member appointed to serve in lieu of any member on account of death, resignation, removal, or disability of such member, shall serve only for the unexpired term of such original member.

C. Should a member of the Planning and Development Board move outside of the jurisdictional boundaries of the City, the member shall become disqualified and a new member shall be appointed by the City Commission.

D. Any vacancy occurring shall be filled by the City Commission.

E. The City Commission shall appoint two (2) alternates to serve when members of the Planning and Development Board are absent. The alternate shall reside within the jurisdictional boundaries of the City of Boynton Beach and all other restrictions set forth in this Ordinance as to members of the Planning and Development Board shall apply to the alternates. Alternate members shall have preference in appointment to vacancies created by death, resignation, removal, or end of term of regular members.

F. Three (3) or more unexcused absences by a member of the Board shall result in the removal by the City Commission. Such absences shall be presumed unexcused unless determined otherwise by the City Commission.

Section 4. Election of Chair and Vice Chair, Rules of Procedure:

A. At the first regular meeting of the Planning and Development Board in April of each year, the Board shall elect a Chairman and Vice Chairman from among its members.

B. The Planning and Development Board shall meet at regular intervals to be determined by the City Commission and at

CODING: Words in ~~struck-through~~ type are deletion from existing law;
Words in underscore type are additions.

such other times as the Chairman may determine. The Board shall operate in accordance with Roberts Rules of Procedure as amended and clarified from time to time. All meetings of the Board shall be open to the public and a record of all meetings shall be kept and maintained in accordance with Florida Public Records Laws.

C. The Chairperson, or in his or her absence, the acting Chairperson, may administer oaths and compel the attendance of witnesses. The Board shall keep minutes of its proceedings, showing the vote of each member on each question, or if absent or abstaining, indicating such fact. No member shall abstain from voting unless her or she has a conflict of interest pursuant to the provisions contained herein or in accordance with Chapter 112, Florida Statutes. The records of the Board shall be filed in the office of the City Clerk of the City of Boynton Beach and shall be public records.

Section 5. Authority, Functions, Powers, and Duty

A. The Planning and Development Board shall have the authority and duty to consider and recommend upon applications, as hereinafter set forth, after first considering the recommendations thereon of the City Planning, Zoning Department, and after a determination of fact that application will not generate excessive noise or traffic; tend to create a fire, disease, or other equally or dangerous hazards; provoke excessive overcrowding or concentration of people or population; be in harmony and compatible with the present and future developments of the area concerned; conserve the value of buildings and encourage the most appropriate use of land and water; provide adequate light and air; promote such distribution of population and such classification of land uses, development and utilization as will tend to facilitate and provide adequate provisions for public requirements, including, but not limited to,

transportation, water flowage, water supply, drainage, sanitation, educational opportunities, recreation, soil fertility, environmental protection, and food supplies; prohibit wasteful and excessive scattering of population of settlements; conform to the character of the district and its particular suitability for particular uses; be consistent with the needs of the City for land areas for specific purposes to serve population economic activities; protect the tax base; facilitate and carry forward the intent and purpose of the City's comprehensive plan; would not be disruptive to the character of the neighborhood or adverse to play grounds, parks, schools, and recreation areas; would not be adverse to the promotion of public health, safety, comfort, convenience, order, appearance, prosperity, or general welfare.

B. The Planning and Development Board shall have all powers heretofore vested in the Planning and Zoning Board and the Community Appearance Board.

C. The Planning and Development Board shall be responsible for all duties heretofore carried out by the Planning and Zoning Board and the Community Appearance Board.

D. All references in the Code of Ordinances of the City of Boynton Beach to the Planning and Zoning Board or to the Community Appearance Board shall hereinafter be construed to mean the Planning and Development Board.

Section 6. Board Designated Statutory Planning Agency. The Planning and Development Board is hereby designated as the City's local planning agency to act on behalf of the City under the terms and provisions of the local government Comprehensive Planning Act, having the general responsibility for the conduct of a comprehensive planning program and the preparation, supervision, and amendment of the comprehensive plan or elements

CODING: Words in ~~struck-through~~ type are deletion from existing law;
Words in underscore type are additions.

or portions thereof applicable to the areas under the jurisdiction of the City as provided in said Act.

Section 7. Review of Board Decisions.

A. All decisions of the Planning and Development Board shall be advisory to the City Commission. Disposition of an application or request made through the Planning and Development Board shall not be deemed final until acted on by the City Commission. Once final, a decision may be reviewed by the filing of a Petition for Writ of Certiorari in the Circuit Court of the 15th Judicial Circuit in and for Palm Beach County, Florida, and in accordance with the procedure and within the time provided by Court rule and such time shall commence to run from the date of the decision sought to be reviewed.

Section 8. Abolishment of Planning and Zoning Board.

A. The Planning and Zoning Board of the City of Boynton Beach is hereby abolished effective immediately upon adoption of this Ordinance by second reading.

B. All powers and duties heretofore vested in the Planning and Zoning Board of the City of Boynton Beach are transferred to the Planning and Development Board.

Section 9. Abolishment of Community Appearance Board.

A. The Community Appearance Board of the City of Boynton Beach is hereby abolished effective immediately upon adoption of this Ordinance by second reading.

B. All powers and duties heretofore vested in the Community Appearance Board of the City of Boynton Beach are transferred to the Planning and Development Board.

Section 10. That all ordinances or parts of ordinances in conflict herewith be and the same are hereby repealed.

Section 11. In the event any portion of this Ordinance is deemed invalid, illegal or unconstitutional by any court of

CODING: Words in ~~struck-through~~ type are deletion from existing law;
Words in underscore type are additions.

competent jurisdiction, such decision shall in no manner effect the remaining portions or sections of this Ordinance and shall remain in full force and effect.

Section 12. Authority is hereby granted to codify said ordinance.

Section 13. This ordinance shall become effective immediately upon adoption by second reading.

FIRST READING this 7 day of APRIL, 1992.

SECOND, FINAL READING and PASSAGE this 21 day of APRIL, 1992.

CITY OF BOYNTON BEACH, FLORIDA

Mayor

Vice Mayor

Commissioner

Commissioner

Commissioner

ATTEST:

CITY CLERK

(CORPORATE SEAL)

JAC:aw
4/1/92|4/2/92|4/16/92
[A:bbord|devboard.doc]

CODING: Words in ~~struck-through~~ type are deletion from existing law;
Words in underscore type are additions.

ORDINANCE NO. 71 -

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, REPEALING PROVISIONS OF ORDINANCES 61-3 AND 70-2 OF SAID MUNICIPALITY IN THEIR ENTIRETY, AND CREATING A NEW MUNICIPAL PLANNING AND ZONING BOARD; PROVIDING FURTHER FOR THE APPOINTMENT AND TERMS OF OFFICE OF THE MEMBERS OF SAID BOARD; FURTHER SETTING FORTH THE DUTIES AND RESPONSIBILITIES THEREOF AND PROVIDING FURTHER FOR A SAVINGS CLAUSE, REPEALING PROVISIONS, AUTHORITY TO CODIFY, AN EFFECTIVE DATE AND FOR OTHER PURPOSES:

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1: That the provisions of Ordinance 61-3 and Ordinance 70-2 of the City of Boynton Beach be, and the same are, hereby repealed in their entirety.

Section 2: That pursuant to the provisions of Section 23 of the charter of Boynton Beach, Florida, there is hereby created a Municipal Planning and Zoning Board, which shall consist of seven (7) members, to be appointed by the City Council, to serve at the pleasure of the City Council. It shall be the duty and responsibility of said Board to meet at the call of its Chairman or Vice Chairman for the purpose of considering all requests for zoning changes under the Master Zoning Code of the City, to conduct public hearings in connection with such requests, and to make recommendations to the City Council in connection with the City Council's final determination regarding disposition of all such zoning requests. The City Council may, in addition, refer to said Board for consideration and recommendation any general subject matter pertaining to municipal zoning within the City.

It shall be the further duty and responsibility of said Board to prepare and recommend to the City Council for adoption of a Comprehensive Plan for the physical development of the City of Boynton Beach and to perfect

Plan may show, among other things: existing and proposed streets, highways, expressways, bridges, tunnels and viaducts and approaches thereto; routes of railroads and transit lines; terminals, ports and airports; parks, playgrounds, forests, reservations, and other public open spaces; sites for public buildings and structures; districts for residence, business, industry, recreation, agriculture and forestry; special districts for other purposes; limited development districts for purposes of conservation; water supply, sanitation, drainage, protection against floods, and the like; areas for housing developments, slum clearance, urban renewal and redevelopment; location of public utilities, whether publicly or privately owned, including but not limited to sewerage and water supply systems; together with time and priority schedules and cost estimates for the accomplishment of the proposals. The Comprehensive Plan shall be based upon and include appropriate studies of the location and extent of present and anticipated use of land, population, social and economic resources and problems, and other useful data.

The Board shall, in addition, review, consider and make recommendations to the City Council concerning the Council's final approval of maps and plats of subdivisions of land within the municipal limits of the City of Boynton Beach.

Four (4) members of said Planning and Zoning Board shall constitute a quorum in connection with disposition of matters coming before the Board. Vacancies in the membership of said Board shall be filled by appointment by the City Council. Upon organization, after appointment, the members of said Board shall elect a Chairman and Vice Chairman for the purpose of orderly conduct of their meetings, with the Vice Chairman to act in the absence of the Chairman.

Section 4: Authority to Codify: Specific authority is hereby granted to codify and incorporate this Ordinance in the City's existing Code.

Section 5: Repealing Provisions: All ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 6: Effective Date: This Ordinance shall become effective in the manner and at the time provided in the charter and Ordinances of the City of Boynton Beach, Florida.

First reading this 5th day of January, A. D. 1971.

Second, final reading and passage this 19 day of JANUARY, 1971.

CITY OF BOYNTON BEACH, FLORIDA

By: Forrest L Wallace
Mayor

Robert B. Effron
Vice Mayor

Emily M Jackson
Councilman

J L Archie
Councilman

Harold L Blanchette
Councilman

ATTEST:

voted in opposition

Teresa Padgett
City Clerk

ORDINANCE NO. 15-021

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING PART II, CODE OF ORDINANCES, CHAPTER 16, "PARKS AND RECREATION" PROVIDNG CLARITY AND ELIMINATING UNNECESSARY LANGUAGE AND INCREASING BEACH PARKING PERMITS; PROVIDING FOR CONFLICTS, SEVERABILITY, CODIFICATION AND AN EFFECTIVE DATE.

WHEREAS, City staff has been reviewing existing code language to assure that the Parks and Recreation Chapter is clear and consistent throughout the Code of Ordinances; and

WHEREAS, the resulting clean-up effort will facilitate greater consistency and understanding of the Chapter; and

WHEREAS, Boynton Beach Oceanfront Park is one of the City's most popular and busiest parks and staff; and

WHEREAS, staff is recommending increasing annual resident beach parking permit fees, non-resident parking permit fees and daily fees on holidays and weekends while changing the permits from seasonal to annual; and

WHEREAS, the City Commission deems it to be in the best interest of the citizens and residents of the City to amend Chapter 16 of the City's Code of Ordinances as hereinafter referenced.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, THAT:

Section 1. The foregoing "Whereas" clauses are true and correct and incorporated herein by this reference.

Section 2. Chapter 16, "Parks and Recreation" of the City's Code of Ordinances is hereby amended by adding the words and figures in underlined type and by deleting the words and figures in struck-through type, as follows:

ARTICLE I. IN GENERAL

Sec. 16-1. Board created; appointment, terms, qualifications.

There is hereby established a recreation and parks board, hereinafter referred to as "board," which board shall consist of seven (7) members. The city Commissionshall appoint the members of said board. Two (2) members shall serve for a term of one (1) year from the date of appointment; three (3) members shall serve for a term of two (2) years from the date of appointment; two (2) members shall serve for a term of three (3) years from the date of

appointment. Vacancies created after expiration of these terms shall be filled by appointments for three-year terms. Members of the board shall be residents and electors of the city.

Sec. 16-2. Removal of board members; vacancies.

Members of the board may be removed by a majority vote of the total members of the city Commission. Vacancies on the board shall be filled by the city Commission.

Sec. 16-3. Chair and Vice-Chair of board.

The City Commission will appoint a Chair and Vice Chair of the Board. The appointments will by motion of the Commission. The Chair and Vice Chair will hold their respective appointments until the Commission appoints a successor Chair or Vice Chair. .

Sec. 16-4. Meetings of board.

(a) In the performance of their duties set forth in this article, the board shall hold at least one regular meeting each month.. Special meetings may be called by the board chair or the recreation and parks department upon prior notification.

(b) Minutes shall be kept during all meetings.

(c) The recreation and parks department shall prepare an agenda for each meeting and shall contact the chair of the board regarding the agenda.

(d) Four (4) members in attendance shall constitute a quorum before an official meeting is declared in session.

Sec. 16-5. Powers and duties of board.

Subject to the control and direction of the city Commission, the board:

(a) Shall act in an advisory capacity (non-administrative) to the recreation and parks department, to assure representation of ideas of citizens who are interested in promoting better recreation and park facilities and programs for the city. Such advice shall include but not be limited to site locations, development, supervision and maintenance of public recreation and parks of the city.

(b) May acquire by gift or donation, any property for public recreation or park purposes. Any gifts or donations acquired shall go through the recreation and parks department and shall become the property of the city, and title of any real property so acquired shall be taken in the name of the city.

(c) Shall make recommendations to the city manager and city Commission, through the recreation and parks director, concerning the purchase of property by the city for public recreation and park purposes, concerning the establishment, maintenance, and supervision of public recreation and parks, and concerning expenditures of the recreational and park fund hereinafter established.

Shall keep records and accounts of all the activities of the board and make reports through the recreation and parks department to the city Commission and city manager whenever requested to do so.

(e) ~~Shall make recommendations to the director of recreation and parks and the city manager, to be submitted to the city Commission for approval, concerning employment of personnel to conduct, instruct and supervise park and recreational activities, and the use of public recreation and park facilities of the city.~~

(f) In exercising their powers and performing their duties as specified in this article, the board shall act through a majority of its members and the chair of the board is requested to sign all papers and documents requiring the signature of the recreation and park board.

~~Sec. 16-6. Recreational and park fund established; expenditures.~~

~~There is hereby established as a part of the city treasury a fund to be known as the recreational and park fund. All monetary gifts or donations to the city for recreation or park purposes shall be paid into said fund. All monetary gifts or donations to the city for recreation or park purposes shall be paid into said fund.~~

~~Expenditures from the recreational and park fund of the city shall be in the manner and form provided by Laws of Florida or the city for expenditures of municipal funds. No monetary gift or donation to the city for public park purposes shall be expended for any purpose other than recreation and parks.~~

Sec. 16-7. Use of portion of Boynton Canal and abutting property prohibited.

All fishing, swimming, diving, trespassing, parking or loitering in or about that certain portion of the Boynton Canal and abutting property owned by the South Florida Water Management District, lying east of the easterly right-of-way line of U.S. Highway No. 1 (State Road No. 5), more particularly described hereafter is hereby declared dangerous, a trespass, and a general public nuisance and such actions by any person are hereby prohibited.

Commence at the intersection of the easterly right-of- way line of U.S. Highway No. 1 and the northerly right-of-way line of the Boynton Canal; thence proceed easterly along the northerly right-of-way line of the Boynton Canal to the southwest corner of Lot 62, Coquina Cove, Plat Book 24, Page 14, public records of Palm Beach County, Florida; thence proceed southeasterly across the right-of-way line of the Boynton Canal to the northwest corner of Lot 41, Harbor Estates, Plat Book 21, Page 98, public records of Palm Beach County, Florida; thence proceed westerly along the south right-of-way line of the Boynton Canal to its point of intersection with the easterly right-of-way line of U.S. Highway No. 1; thence proceed northerly along the easterly right-of-way line of U.S. Highway No. 1 to the point of beginning.

Secs. 16-8—16-17. Reserved.

ARTICLE II. CITY PARKS AND BEACHES

DIVISION 1. GENERALLY

Sec. 16-18. Definitions.

As used in this article:

Director means the recreation and parks director of the city.

Park means land owned by the City, and intended for current or future active or passive recreation. *Vehicle* means any wheeled conveyance, whether motor powered, animal-drawn, or self-propelled. The term shall include any trailer in tow of any size, kind or description. Exception is made for baby carriages and vehicles in the service of the city parks.

Sec. 16-19. Hours and activity fees.

The director shall establish hours that the park or beach shall be open for public use as may be deemed reasonable and such opening and closing time shall be posted for public information.

The City Commission may by resolution establish activity fees for specific activities within any City developed or undeveloped park.

Sec. 16-20. Interference with permittees.

No person at any beach or park shall disturb or interfere unreasonably with any person or party occupying any area or participating in any activity under the authority of a permit.

Sec. 16-21. Showing of permits upon request.

Every person at a beach or park shall produce and exhibit any permit from the director he claims to have, upon request of any authorized person who shall desire to inspect the same for the purpose of enforcing compliance with any ordinance or rule.

Sec. 16-22. Enforcement of regulations.

(a) The director and park or beach attendants shall, in connection with their duties imposed by law, diligently enforce the provisions of this article. The director and any park attendant shall have the authority to eject from the park or beach any person acting in violation of this article, and shall have the authority to seize and confiscate any property, thing or device in the park or beach used in violation of this article. Administrative authority is hereby granted to the City Manager and/or his or her designee to designate and post specific areas in city parks as "Quiet Zones."

(b) Penalties for violation of this section shall be pursuant to the City Code of Ordinances Chapter 1, General Provisions, Article 1, Section 1-6.

Sec. 16-23. Permit required to erect structure or run utility.

It shall be unlawful for any person to construct or erect any building or structure of whatever kind, whether permanent or temporary in character, or run or string any public service utility into, upon or across any beach or park, except on special written permit issued hereunder.

Sec. 16-24. Removal of sand or soil, shrubs, trees, etc.

It shall be unlawful for any person to dig or remove any beach sand, whether submerged or not, or any soil, rock, stones, trees, shrubs or plants, down-timber or other wood or materials, or make any excavation by tool, equipment, blasting or other means or agency upon any beach or park within the city.

Sec. 16-25. Damaging trees, plants, grass.

It shall be unlawful for any person to damage, cut, carve, or transplant any tree or plant or injure the bark, or pick the flowers or seeds of any tree or plant in any beach or park. Nor shall any person attach any rope, wire or other contrivance to any tree or plant. No person shall dig in or otherwise disturb grass areas, or in any other way injure or impair the natural beauty or usefulness of any beach or park.

Sec. 16-26. Pollution of waters.

It shall be unlawful for any person to throw, discharge or otherwise place or cause to be placed in the waters of any fountain, pond, lake, stream, bay or other body of water in or adjacent to any park or beach, or tributary stream, storm sewer or drain flowing into such waters, any substance, matter or thing, liquid or solid, which will or may result in the pollution of said waters.

Sec. 16-27. Structures to afford open view; guy wires, braces prohibited.

It shall be unlawful for any person to erect, maintain, use or occupy on or in any beach or bathing area any tent, shelter or structure of any kind unless there shall be an unobstructed view into said tent, shelter or structure from at least two (2) sides; nor shall any guy wire, rope or extension or exterior brace or support be connected or fastened from any such structure to any other structure, stake, rock or other object outside thereof.

Sec. 16-28. Bounce houses.

The use of "bounce houses" and other inflatable playground equipment is prohibited at city-owned property unless the company operating the equipment has received prior approval from the city's Recreation and Parks Director, or their designee, to operate such equipment. The notice of approval shall be posted at the location the equipment is installed during the time that the equipment is being operated in order to allow the appropriate city representative to verify that the operator received prior approval from the city. Any equipment installed on city-owned property without prior approval shall be immediately deflated and/or disconnected by the authorized city representative. The provisions of this section shall be enforced by the city's code enforcement officers, as well as the city's law enforcement officers. Regulations regarding the placement, use, insurance, and supervision requirements shall be developed and published by the city's Recreation and Parks Department.

Secs. 16-29—16-37. Reserved.

DIVISION 2. CONDUCT REGULATED

Sec. 16-38. Alcoholic beverages permitted only at designated places; sale; drunkenness.

No person shall drink nor possess alcoholic beverages at any time at any beach or park except at specifically designated recreation centers pursuant to a Facility/Field Use Application, , or at a beach or park pursuant to a Special Event Permit issued by the city. The sale or possession of alcoholic beverages by a concessionaire, or pursuant to a Special Event Permit or a Facility/Field Use Application, will be subject to the strict regulation and control of the director. Sales of alcoholic beverages shall be served for consumption on the immediate premises. No person shall become drunk or be under the influence of intoxicating

beverages. The City Commission may approve of certain holidays whereby the prohibition on consuming or possessing alcohol at the beach or a park is waived.

Sec. 16-39. Animals prohibited.

No person shall have, or be permitted to have, any dog or other domestic animals on any designated beach or park area at any time whether muzzled, leashed or not except as authorized in Section 4-33. Animals used by law enforcement or service animals, trained to aid persons with disabilities, shall be exempt from this section.

Sec. 16-40. Fireworks or explosives.

No person at any park or beach shall bring in or have in his possession, or set off or otherwise cause to explode or discharge or burn, any firecracker, torpedo, rocket or other fireworks or explosives or inflammable materials, or discharge them or throw them into any such area from land or highway adjacent thereto. This prohibition includes any substance, compound, mixture or article that in conjunction with any other substance or compound would be dangerous from any of the foregoing standpoints.

This section shall not prohibit fireworks displays where permitted under the provisions of section 15-5.

Sec. 16-41. Use of facilities provided for opposite sex.

No person at any park or beach shall occupy any seat or bench, or enter into or loiter or remain in any pavilion or other park structure or section thereof which may be reserved and designated by the director for the use of the opposite sex. Exception is made for children under four (4) years of age.

Sec. 16-42. Soliciting prohibited.

It shall be unlawful at any beach or park for any person to solicit alms or contributions for any public or private purpose.

Sec. 16-43. Fires, permitted only in designated areas; dropping inflammable material.

No person shall build or attempt to build a fire except in such areas and under such regulations as may be designated by the director. No person shall drop, throw or otherwise scatter lighted matches, burning cigarettes or cigars, tobacco paper or other inflammable material, within any park area or on any highway, road or street abutting or contiguous thereto.

Sec. 16-44. Gambling.

Gambling, or the participation therein or the abetting thereof, is prohibited at any beach or park.

Sec. 16-45. Entering, using closed area.

No person shall enter an area on a beach or park posted as "Closed to the Public" nor shall any person use or abut the use of any area in violation of posted notices.

Sec. 16-46. Sleeping, lounging; disorderly conduct generally.

No person shall at any beach or park sleep or protractedly lounge on the seats or benches or other areas, or engage in loud, boisterous, threatening, abusive, insulting or indecent language, or engage in any disorderly conduct or behavior tending to a breach of the public peace.

Sec. 16-47. Cooperation in keeping rest rooms clean.

It shall be unlawful for any person to fail to cooperate in maintaining rest rooms and washrooms in a neat and sanitary condition.

Sec. 16-48. Climbing trees; standing or sitting on fixtures.

It shall be unlawful for any person to climb any tree, or walk, stand or sit upon monuments, vases, fountains, railings, fences or gun carriages or upon any other property on any beach or park which is not designated or customarily used for such purposes.

Sec. 16-49. Refuse and trash.

It shall be unlawful for any person to bring in or dump, deposit or leave any bottles, broken glass, ashes, paper, boxes, cans, dirt, rubbish, waste, garbage or refuse or other trash on any beach or park. No such refuse or trash shall be placed in any waters in or contiguous to any park or beach, or left anywhere on the grounds thereof, but shall be placed in the proper receptacles where these are provided. Where receptacles are not provided, all such rubbish or waste shall be carried away from the park or beach by the person responsible for its presence and properly disposed of elsewhere.

Sec. 16-50. Swimmers to conform to regulations.

It shall be unlawful for any person in a park or beach to swim, bathe, or wade in any waters or waterways in or adjacent to any park or beach, except in such waters and at such places and during such hours as are provided therefor, and in compliance with such regulations as are herein set forth or may be hereafter adopted. Nor shall any person frequent any waters or places customarily designated for the purpose of swimming or bathing, or congregate thereat when such activity is prohibited by the director upon a finding that such use of the water would be dangerous or otherwise inadvisable.

Sec. 16-51. Undeveloped park sites are not open for recreational use unless the use, and the portion of the site where it may occur, is specifically posted.

Sec. 16-52. Dressing and undressing.

No person shall dress or undress on any beach or in any vehicle, toilet or other place except in such bathing houses or structures as may be provided for that purpose.

Sec. 16-53. Hunting; weapons; shooting.

It shall be unlawful for any person to hunt, trap or pursue wildlife at any time on any beach or park; nor shall any person use, carry or possess air-rifles, spring-guns, bow and

arrows, slings or any other forms of weapons potentially inimical to wild life and dangerous to human safety, excluding firearms, or any instrument that can be loaded with and fire blank cartridges, or any kind of trapping device.

Sec. 16-54. Place for picnics; regulation authorized.

It shall be unlawful for any person to picnic or lunch on any beach or park in a place other than those designated for that purpose. Attendants shall have the authority to regulate the activities in such areas when necessary to prevent congestion and to secure the maximum use for the comfort and convenience of all. Visitors shall comply with any directions given to achieve this end.

Sec. 16-55. Use of fireplaces and picnic areas.

The use of the individual fireplaces together with tables and benches follows generally the rule of "first come, first served."

No person shall use any portion of the picnic areas or of any of the buildings or structures therein for the purpose of holding picnics to the exclusion of other persons, nor shall any person use such area and facilities for an unreasonable time if the facilities are crowded.

Sec. 16-56. Duties when leaving picnic area.

No person shall leave a picnic area before the fire is completely extinguished and before all trash in the nature of boxes, papers, cans, bottles, garbage and other refuse is placed in the disposal receptacles where provided. If no such trash receptacles are available, then refuse and trash shall be carried away from the park area by the picnicker to be properly disposed of elsewhere.

Sec. 16-57. Camping.

No person shall camp in any park in other than permanent cabins for organized camping, provided by the director and used by groups of persons under adequate supervision. No person shall set up tents, shacks or any other temporary shelter for the purpose of overnight camping, nor shall any person leave in a park after closing hours any movable structure or special vehicle to be used or that could be used for such purpose, such as a house trailer, camp trailer, camper, camp wagon or the like.

Sec. 16-58. Games allowed only in designated areas.

No person shall take part in or abet the playing of any games involving thrown or other propelled objects such as balls, stones, arrows, javelins or model airplanes except in areas set apart for such forms of recreation. The playing of rough or comparatively dangerous games such as football, baseball and quoits is prohibited except on the fields and courts or areas provided therefor. Roller skating shall be confined to those areas specifically designated for such pastime.

Sec. 16-59. Overnight boat docking prohibited.

It shall be unlawful for any persons to camp overnight on the grounds of Harvey E. Oyer, Jr. Park or to dock their boats on the shorelines or ramp area of said Harvey E. Oyer, Jr. Park either overnight or on a permanent docking basis.

Sec. 16-60. Establishing hours of use at Harvey E. Oyer, Jr. Park.

(a) The Harvey E. Oyer, Jr. Park shall be closed at 10:00 p.m. to all persons, except:

(1) Fishermen;

(2) Boaters actively engaged in fishing or boating or preparation thereof; and

(3) Official permit holders utilizing the boat club building.

(b) It shall be unlawful for anyone, except the enumerated persons, to enter the Park between the hours of 10:00 p.m. and dawn of the next day.

(c) The Harvey E. Oyer, Jr. Park shall not be used for storage of any kind, including but not limited to, storage of vessels, vehicles and trailers.

(d) No tether, lock or other personal property shall be permanently attached to any fixtures, trees or other objects on the Harvey E. Oyer, Jr. Park premises.

(e) Any decal holder actively engaged in fishing, boating or preparation thereof for a period of three (3) days or more shall notify the City in writing in advance. The City shall tag the trailer and/or vehicle of any such decal holder as an "Extended Stay" vehicle. Any vehicle or trailer that remains in the Park for three (3) days or more without prior permission from the City shall be removed, towed or otherwise disposed of at the owner's expense.

(f) Vehicles without a trailer may only park in areas designated for single vehicles.

Sec. 16-61. Boat launching and trailer parking user fee at the Harvey E. Oyer, Jr. Park.

(a) The purpose of this section is to establish an annual and daily boat launching and trailer parking user fee for the Harvey E. Oyer, Jr. Park, and to establish rules and regulations related to the use of the Park.

(b) The City shall charge a fifty dollar ($50.00) annual decal fee. On weekends and holidays, those who do not have an annual decal may pay a ten dollar ($10.00) daily fee. There is no daily fee for non-decal holders during the weekdays (Monday through Friday).

(c) The City shall not differentiate between residents and non-residents of the County or the State while processing decal applications.

(d) (1) Decals will be issued to an applicant on an annual basis, October 1 to September 30, upon satisfactory completion of appropriate application forms, commencing October 1, 2001. All decals shall be permanently affixed on the passenger side of the trailer (on a conspicuous part of the winch post; alternately the tongue, as close as possible to the ball). Decals placed on a trailer other than the one for which it was originally issued shall be construed to be void.

(2) In the event that the trailer to which the permanent decal was issued has been sold or otherwise changed ownership and/or in the event a properly issued decal is mutilated and can be identified, the decal will be replaced for a charge of twenty-five dollars ($25.00), provided the holder can return an identifiable portion of the mutilated decal to the city. In the event the holder of a lost or mutilated decal cannot provide an identifiable portion or part of the decal, the charge for a replacement decal will be the sum of fifty dollars ($50.00).

(e) Boats, vessels and trailers that do not have a lawfully issued decal shall be subject to a twenty-five dollar ($25.00) fine.

Sec. 16-62. Enforcement.

The City Police Department is hereby given the power and duty to enforce this article, and shall have the power to make lawful arrests for the violation of the provisions hereof. Anyone found to have violated any provision of this section shall be punished as provided for in this chapter or as otherwise provided by law.

Secs. 16-63—16-68. Reserved.

DIVISION 3. TRAFFIC AND PARKING REGULATIONS

Sec. 16-69. Compliance required.

It shall be unlawful for any person at any beach or park to fail to comply with all applicable provisions of the state motor vehicle traffic laws in regard to equipment and operation of vehicles together with such regulations as are contained in this Code.

Sec. 16-70. Authority to direct traffic; obedience required.

It shall be unlawful for any person to fail to obey all traffic officers and park or beach employees, such persons being hereby authorized and instructed to direct traffic whenever and wherever needed in the parks and on the highways, streets or roads immediately adjacent thereto in accordance with the provisions of these regulations and such supplementary regulations as may be issued subsequently by the director.

Sec. 16-71. Observance of traffic signs.

It shall be unlawful for any person on any beach or park to fail to observe carefully all traffic signs indicating speed, direction, caution, stopping or parking, and all others posted for proper control and to safeguard life and property.

Sec. 16-72. Speed limit.

It shall be unlawful for any person on any beach or park to ride or drive a vehicle at a rate of speed exceeding ten (10) miles an hour, except upon such roads as the director may designate by posted signs for speedier travel.

Sec. 16-73. Driving in prohibited areas.

It shall be unlawful for any person to drive a vehicle on any beach or park area except upon paved roads or parking areas or such areas as may be designated as temporary parking areas by the director.

Sec. 16-74. Parking to be in parking areas; obedience to regulations.

It shall be unlawful for any person to park a vehicle on any beach or park in other than an established or designated parking area and such use shall be in accordance with the posted directions thereat and with the instructions of any attendant who may be present.

Sec. 16-75. Night parking.

It shall be unlawful for any person to leave a vehicle standing or parked at night on any beach or park without lights clearly visible for at least seventy-five (75) feet from both front and rear on any driveway or road area except in legally established parking areas.

Sec. 16-76. Notice of vehicle breakdown.

It shall be unlawful for any person to fail to immediately notify an attendant of a vehicle breakdown on any beach or park requiring assistance of a tow truck, mechanic or any person.

Sec. 16-77. Double parking.

It shall be unlawful for any person to double park any vehicle on any road or parkway on any beach or park unless directed by a park official.

Sec. 16-78. Where bicycles permitted.

It shall be unlawful for any person to ride a bicycle in any beach or park on other than a paved vehicular road or path designated for that purpose. A bicyclist shall be permitted to wheel or push a bicycle by hand over any grassy area or wooded trail or on any paved area reserved for pedestrian use.

Sec. 16-79. Bicycles to keep to right, single file; manner of riding generally.

All persons riding bicycles in any beach or park shall ride such bicycles on the right-hand side of the road paving as close as conditions permit, and bicycles shall be kept in single file when two (2) or more are operating as a group. Bicyclists shall at all times operate their machines with reasonable regard to the safety of others, signal all turns, pass to the right of any vehicle they are overtaking and pass to the right of any vehicles they may be meeting.

Sec. 16-80. Passengers on bicycles; manner of parking or leaving.

It shall be unlawful for any person on any beach or park to ride any other person on a bicycle, or to leave a bicycle in a place other than a bicycle rack when such is provided and there is a space available, or to leave a bicycle lying on the ground or paving, so set against trees, or in any place or position where other persons may trip over or be injured by them.

Sec. 16-81. Headlights, reflectors on bicycles.

It shall be unlawful for any person, on any beach or park to ride a bicycle on any road between thirty (30) minutes after sunset or before thirty (30) minutes before sunrise without an attached headlight plainly visible at least five hundred (500) feet in front of the bicycle, and without a red tail light or red reflector plainly visible from at least six hundred (600) feet from the rear of such bicycle.

Sec. 16-82. Rules, regulations controlling parking of vehicles at municipal beach property located within the Town of Ocean Ridge.

The city manager is hereby directed to implement subject procedures at the earliest possible date. (Said regulations are set out below.)

POLICY NO. 1. PARKING PERMITS

Parking permits will be issued on an annual basis (October 1 through September 30) each year to residents (see "Definitions") of the City of Boynton Beach, for a charge of ~~forty dollars ($40.00)~~ fifty dollars ($50) for each decal issued to a resident vehicle, upon satisfactory completion of appropriate application forms. Applicants will be required to establish proof of residency in the City of Boynton Beach (see "Definitions") and to present their official state motor vehicle tag registration certificate for each decal purchased.

Lost or mutilated parking permits. In the event that the vehicle to which the permanent decal was issued has been sold or otherwise changed ownership and/or in the event a properly issued parking decal is mutilated and can be identified, such decal will be replaced for a charge of ~~twenty dollars ($20.00)~~ fifteen dollars ($15), provided the holder can return an identifiable portion of the mutilated parking decal to the city. In the event the holder of a lost or mutilated parking permit cannot provide an identifiable portion or part of such parking decal, the charge for a replacement decal will be the sum of ~~forty dollars ($40.00)~~ fifty dollars ($50).

Qualified nonresidents: Qualified nonresidents may obtain beach decals that permit parking ~~on specified dates and times~~ annually. The cost for such permit ~~and the dates they are valid shall be~~ as set forth herein:

The permit fee for qualified nonresidents shall be ~~ninety dollars ($90.00)~~ two hundred dollars ($200.00) each.. ~~and shall be valid seven (7) days a week, from May 1 to November 15.~~

Definitions.

City employees: All city employees, classified, nonclassified and retired, regardless of residency, shall be eligible to purchase one (1) parking permit. Proof of employment shall be established through the personnel department of the city. Persons who terminate (not retired) their employment with the city and who are not city residents shall be required to scrape off their stickers and return remains to the issuing office.

Resident: Anyone owning real estate and/or leasing, renting or occupying real estate or living accommodations within the City of Boynton Beach for a time period of at least six (6) consecutive months each calendar year, as well as members of their immediate family residing with them; provided, however, for purposes of this section, the term "City of Boynton Beach" shall include all property within the corporate limits of the Town of Ocean Ridge. Proof of residency shall be established by some suitable means, such as utility bill, tax bill, property deed or lease agreement.

Qualified nonresident: Anyone who is not a resident but who resides in the agricultural reserve area of unincorporated Palm Beach County bounded on the south by lateral Canal No. 30, bounded on the north by Hypoluxo Road, and bounded on the west by the Loxahatchee National Wildlife Refuge.

POLICY NO. 2. PROCEDURE FOR ISSUANCE OF PARKING PERMITS

(1) Ensure that applicants are residents as defined in Policy No. 1.

(2) Request proof of residency. Proof established in accordance with Policy No. 1.

(3) Request separate vehicle registration for each parking permit to be issued.

(4) Residents leasing automobiles should provide contract documents establishing the lease agreement or arrangement or company car assignment.

(5) Issuing authority shall complete parking permit application by listing separate permit numbers opposite the make, model and year of each vehicle.

(6) All parking permits shall be permanently affixed upon the lower, left-hand side (driver's side) of the front windshield of such vehicle. Decals placed on a vehicle other than the one for which it was originally issued shall be construed to be void.

(7) Parking permits issued to motorcycles, motor bikes, and motor scooters shall be displayed on the left front fork of such vehicle or other visible location in the area of the left front.

PARKING FEES FOR MOTOR VEHICLES

A daily parking fee is hereby established for all motor vehicles parking at the public beach, except those hereinafter excepted, in accordance with the following rates and charges.

May 1—November 15

Weekdays (Monday-Friday) $5.00

Weekends (Saturday & Sunday) and Holidays $10.00

November 16—April 30 $10.00

~~$ 5.00 $10.00~~

Exceptions:

(1) Vehicle having affixed thereto a parking permit issued in accordance with the rules and regulations of Policies 1 and 2.

(2) Official state, county and city vehicles entering the park in the performance of governmental functions.

(3) The vehicles of public utility companies, workmen, tradesmen, or salesmen when engaged in official park business.

(4) School buses transporting Florida school, college or university students in a group or body for a field trip for educational purposes. This exception shall not apply to vehicles transporting such groups to the park for recreational purposes.

Florida school groups, as mentioned in exception (4), must make prearrangements with the director of recreation and parks, or his designee, by submitting a letter from the school principal certifying that the trip is a part of the school curriculum.

Parking permits will be available to all city residents as outlined in Policies 1 and 2. Vehicles not exhibiting the permit will be required to pay the parking fee in accordance with this policy.

PARKING AREAS FOR MOTOR VEHICLES

Trucks, buses and trailers shall park in the lower level spaces of the parking area at the public beach.

PENALTY FOR NONCOMPLIANCE WITH RULES AND REGULATIONS

It shall be unlawful for any person to falsify information in the process of applying for a parking permit, for any person to sell a parking permit, for any person to transfer a parking permit to a nonresident, or for any person to fail to follow the rules and regulations pertaining to the use of the parking facilities at the public beach.

Secs. 16-83—16-92. Reserved.

ARTICLE III. BOATS AND BOATING

Sec. 16-93. Speed causing harmful wake.

It shall be unlawful to operate any boat, vessel or other watercraft upon any waterway or body of water within the corporate limits of the city at a rate of speed which causes waves to damage docks, wharves, seawalls or boats moored or tied to a dock or wharf along such waterways.

It shall be unlawful to operate any boat, vessel or other watercraft upon any waterway or body of water within the corporate limits of the city at a rate of speed which causes waves to damage docks, wharves, seawalls or boats moored or tied to a dock or wharf along such waterways.

Sec. 16-93.1. Boats, watercraft, personal watercraft; speed restriction on C-16 Canal (Pioneer Park).

(a) No person shall operate a motorboat or personal watercraft as further defined by Florida Statutes or permit a motorboat or personal watercraft to be operated in the C-16 Canal idle speed no wake zone at any speed greater than idle speed no wake. The C-16 Canal idle speed no wake zone is hereby established to be all waters two hundred (200) feet east and west of the boat launch area of the C-16 Canal (Pioneer Park).

(b) The C-16 Canal idle speed no wake zone shall be marked on the canal with uniform waterway regulatory markers in accordance with applicable state and federal laws and regulations.

(c) A violation of any provision of this section shall be punished pursuant to Section 327.73, Florida Statutes.

Sec. 16-94. Mufflers required.

It shall be unlawful to operate any watercraft with outboard motor or inboard motor not having properly muffled exhaust within the city, in such manner as to annoy or disturb the quiet, comfort or repose of any person or persons in any dwelling, hotel, motel or any other type of residence, or of any person in the vicinity.

Sec. 16-94.5. Mooring, docking, fueling or refueling of water craft prohibited.

(a) No person shall at any park or beach fuel or refuel any water craft. For purposes of this section water craft shall include but is not limited to motorized boats and jet skis.

Furthermore, as used in this section jet skis shall mean any personal water craft designed for riding enjoyment of person(s), being propelled by a jet pump with a fully enclosed impeller.

(b) Anyone found to have violated any provision of this section shall be punished as provided for in this chapter or as otherwise provided by law.

Sec. 16-95. Enforcement.

The police department of the city is hereby given the power and duty of enforcing the provisions of this article and shall have the power to make lawful arrests for the violation of the provisions hereof; and to prosecute offenders. In case a violation is not committed in the presence of a member of the police department or cannot be detected by observation of such member, he may require an affidavit of any complaining person with assurance that such complaining witness will appear to testify at the trial before making any arrest.

Section 3. Each and every other provision of the Code of Ordinances of the City of Boynton Beach not herein specifically amended shall remain in full force and effect as previously enacted.

Section 4. All ordinances or parts of ordinances in conflict herewith be and the same are hereby repealed.

Section 5. Should any section or provision of this ordinance or portion hereof, any paragraph, sentence or word be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this ordinance.

Section 6. Authority is hereby granted to codify said ordinance.

Section 7. This ordinance shall become effective immediately upon passage.

FIRST READING this 18th day of August, 2015.

SECOND, FINAL READING AND PASSAGE this 3rd day of Sept, 2015.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Jerry Taylor	____	____
Vice Mayor – Joe Casello	✓	____
Commissioner – David T. Merker	✓	____
Commissioner – Mack McCray	✓	____

Commissioner – Michael M. Fitzpatrick ✓ ___

VOTE 4-0

ATTEST:

Janet M. Prainito

Janet M. Prainito, MMC
City Clerk

(Corporate Seal)

ORDINANCE NO. 77-5

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA AMENDING THE FOLLOWING SECTIONS OF THE CODIFIED ORDINANCES OF THE CITY OF BOYNTON BEACH, FLORIDA: SEC. 2-31 AND SEC. 2-33, PERTAINING TO LIBRARY BOARD: SEC. 2-41, PERTAINING TO PLANNING AND ZONING BOARD: SEC. 2-51, PERTAINING TO RECREATION AND PARKS BOARD: SUB. SEC. 111.1 AND 111.2 OF SEC. 5-2, PERTAINING TO BUILDING BOARD OF ADJUSTMENTS AND APPEALS; SEC. 6-17, PERTAINING TO MUNICIPAL CEMETERY BOARD, AND SEC. 10-A (1) APPENDIX A, ZONING REGULATIONS PERTAINING TO BOARD OF ADJUSTMENTS, TO PROVIDE FOR UNIFORM TERMS OF THE MEMBERS OF SAID ADVISORY BOARDS, PROVIDING FOR SAVINGS CLAUSE, REPEALING PROVISION, AN EFFECTIVE DATE AND FOR OTHER PURPOSES.

WHEREAS, the City Council of the City of Boynton Beach, Florida, deems it proper for the efficient operation and administration of the municipal government that various of the appointed citizen advisory boards consist of members, the terms of which shall be uniform, and that necessary amendments to existing ordinances be enacted to carry said purpose and intent into effect;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA:

Section 1: That Section 2-31 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to the Municipal Library Board, be and the same is hereby amended to read:

"Section 2-31. Creation; Members; Terms.

There is hereby established a Library Board, hereinafter referred to as "Board". The Board shall consist of seven (7) members who shall be appointed by the City Council to serve for terms of one (1) year from date of appointment.

In the case of vacancy by resignation, removal or otherwise, the City Council shall fill such vacancy by appointment."

Planning and Zoning Board, be and the same are hereby amended to read:

"Pursuant to the provisions of Section 23 of the Charter of the City of Boynton Beach, Florida, there is hereby created a Municipal Planning and Zoning Board, which shall consist of seven (7) members to be appointed by the City Council, to serve for terms of one (1) year from date of appointment. If a vacancy shall occur on said Board, same shall be filled by appointment by the City Council. Members of the Board may be removed by a majority vote of the total members of the City Council."

Section 3: Section 2-51 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to Recreation and Parks Board, be and the same is hereby amended to read:

"Section 2-51. Creation; Members; Qualifications.

There is hereby established a Recreation and Parks Board, hereinafter referred to as "Board", which Board shall consist of seven (7) members. The City Council shall appoint the members of said Board, which shall serve for terms of one (1) year from date of appointment. Members of the Board shall be residents of the City of Boynton Beach, Florida."

Section 4: Subsection 111.1 of Section 5-2 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to the Building Board of Adjustments and Appeals, be and the same is hereby amended to read: "There is hereby created and established a Board designated as the Building Board of Adjustments and Appeals, which shall consist of five (5) members, who shall be appointed by the City Council to serve for terms of one (1) year from date of appointment. Said Board shall be comprised of citizens with sufficient knowledge and previous experience in the various trades connected with the building industry to be able to serve competently and efficiently. If

Subsection 111.2 of Section 5-2 of the codified ordinances of the City of Boynton Beach, Florida, be and the same is hereby repealed in its entirety.

Section 5: The first paragraph of Section 6-17 of the codified ordinances of the City of Boynton Beach, Florida, pertaining to the Municipal Cemetery Board, be and the same is hereby amended to read:

"There is hereby created and established a Board of Governors of the Municipal Cemetery Fund, which shall consist of the City Clerk and five (5) other persons, who shall be appointed by the City Council to serve for terms of one (1) year from date of appointment. Four (4) members of the Board shall constitute a quorum. The Board shall have the right to establish rules and regulations for the management and control of any cemetery owned and operated by the City, and for the conduct of the Board's business, not inconsistent, however, with the provisions of this article, and in addition thereto, shall comply with, abide by and enforce the provisions and conditions of this article. Provided, however, that the Board shall have no right, power or authority to contract for expenditures, or to expend any money except insofar as permission to do so shall have been granted by Motion or Resolution of the City Council."

Section 6: Subseetion A(1) of Section 10 Appendix A to the Zoning Regulations of the codified ordinances of the City of Boynton Beach, Florida pertaining to the Municipal Board of Adjustments, be and the same is hereby amended to read:

"Section 10. Board of Adjustments.

A. Composition and Procedure.

1. The Board of Adjustments shall consist of seven (7) regular members and not more than two (2) alternate members, who shall be appointed by the City Council, all of whom shall serve for terms of one (1) year

Boards shall terminate on the effective date of this ordinance. The members of said Boards shall thereupon be appointed by the City Council in accordance with the provisions of this ordinance. The terms of Board members appointed in 1977 shall expire on January 2, 1978.

Section 8: Separability: Each of the provisions of this ordinance is separable, including word, clause, phrase or sentence, and if any portion thereof shall be declared invalid, the remaining portion shall not be affected but shall remain in full force and effect.

Section 9: Repealing Provision: All ordinances of parts of ordinances in conflict herewith are hereby repealed.

Section 10: An Effective Date: This ordinance shall become effective in the manner and at the time provided by law.

Section 11: This ordinance is adopted pursuant to the provisions of Section 23 of the Codified Charter of the City of Boynton Beach, Florida.

First reading this 18th day of January, A.D., 1977.

Second, final reading and passage, this 8 day of February, A.D., 1977.

CITY OF BOYNTON BEACH, FLORIDA

By: Joseph J. Zack
Mayor

Emily M. Jackson
Vice Mayor

Joe DeMarco
Councilmember

Richard Dillwood
Councilmember

ORDINANCE No. 61-2

AN ORDINANCE RELATING TO RECREATION AND PARKS; ESTABLISHING A RECREATION AND PARK BOARD; DEFINING ITS POWERS AND DUTIES; ESTABLISHING A RECREATION FUND; DEFINING PARK AND FACILITY DEPREDATIONS; A PENALTY FOR PARK AND RECREATION FACILITY DEPREDATIONS, AND DEFINING PUBLIC PARKS.

BE IT ORDAINED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF BOYNTON BEACH, FLORIDA.

SECTION 1. RECREATION AND PARK BOARD ESTABLISHED.

There is hereby established a Recreation and Park Board, hereinafter referred to as Board. The Board shall consist of seven (7) members. The City Council, shall appoint the members of the Board. Four members of the Board first appointed hereunder, shall serve for a term of two years and the remaining three members for a term of one year. Thereafter, members shall be appointe for a term of two years or until their successors have been appointed and qualified. The purpose of this ordinance is to combine and replace the presently existing Recreation Board and Parks and Playgrounds Board to avoid overlapping functions of said bodies.

SECTION 2. QUALIFICATION OF BOARD MEMBERS.

Members of the Board shall be residents of Boynton Beach, Florida.

SECTION 3. OFFICERS OF THE BOARD.

Within ten days from the date of their appointment, the Director of Recreation and Parks shall call a meeting for the Members of the Board to organize by electing one of their members "Chairman" and one of their members "Vice Chairman" of the Board.

SECTION 4. POWERS AND DUTIES.

Subject to the control and direction of the City Council, the Board:

(A). Shall act in an advisory capacity (non-administrative) to the Recreation Department, to assure representation of ideas of citizens who are interested in promoting better recreation and park facilities and program for the City of Boynton Beach, Florida. Such advisory shall include but not be limited to site locations, development, supervision, and maintenance of public recreation and parks of the City.

(B) May acquire by gift or donation, any property for public recreation or park purposes. Any gifts or donations acquired shall go through the Recreation and Parks Department and shall become the property of the City of Boynton Beach, Florida, and title of any real property so acquired shall be taken in the name of the City of Boynton Beach, Florida.

(c) Shall make recommendations to the City Manager, and City Council, through the Recreation Director concerning the purchase of property by the City for public recreation and park purposes, concerning the establishment, maintenance, and supervision of public recreation and parks, and concerning expenditures of the Recreational Fund hereinafter established.

(D) Shall annually, in an advisory capacity, assist the Recreation Department in preparing a proposed budget for public recreation and parks for the City of Boynton Beach.

(E) Shall keep records and account of all the activities of the Board and make reports through the Recreation Department to the City Council and City Manager whenever requested to do so.

(F) Shall make recommendations to the Director of Recreation and Parks and the City Manager, to be submitted to the City Council for approval concerning employement of personnel, which will conduct, instruct, supervise activities, and the use of public recreation and park facilities of the City.

SECTION5. RECREATIONAL FUND ESTABLISHED.
There is hereby established as a part of the City Treasurya fund to be known as the Recreational Fund. All monetary gifts or donations to the City for recreational or park purposes shall be paid into said fund.

SECTION 6. EXPENDITURES OF RECREATIONAL FUND.
Expenditures from the Recreation Fund of the City shall be in the manner and form provided by statute of Florida and/or City of Boynton Beach for the expenditures of municipal funds. No monetary gift or donation to the City for public park purposes shall be expended for any purpose other than recreation and parks.

SECTION 7. PARK DEPREDATIONS.
Park depredations are hereby defined to include but not be limited to the misuse, taking, disturbing, disfiguring or destroying of any public park, recreational facilities, or park property. Any person or persons found guilty of park depredations shall be punished by a fine of not less than five dollars ($5.00) nor more than five hundred dollars ($500.00) or by imprisonment in the City jail not exceeding 90 days, or both such fine and imprisonment, at the discretion of the court.

SECTION 8. PUBLIC PARKS DEFINED.
Public Parks are hereby defined to include but not to be limited to playgrounds, play fields, indoor recreation centers, and other recreation areas and facilities which are owned or controlled by the City.

SECTION 9. MEETINGS OF THE BOARD.
In the performance of their duties set forth in the ordinance, the Board shall hold at least one regular meeting each month in the City Hall. Special meetings may be called by the Board Chairman or the Recreation Department upon prior notification.

(A) Minutes shall be kept during all meetings with a copy given to the City Manager and the original copy placed in the files of the Recreation Department.

(b) The Recreation Department shall prepare an agenda for each meeting and shall contact the Chairman of the Board regarding agenda.

(C) Four members in attendance shall constitute a quorum before an official meeting is declared in session.

SECTION 10. REMOVAL OF MEMBERS - VACANCIES.
Members of the Board may be removed by a majority vote of the total members of the City Council. Vacancies on the Board shall be filled by the City Council.

SECTION 11. EXERCISE OF POWER AND PERFORMANCE OF DUTI
In exercising their powers and performing their duties as specified in this ordinance, the Board shall act through a majority of its members and the chairman of the Board is requested to sign all papers and documents requiring the signature of the Recreation and Park Board.

SECTION 12. SEPARABILITY.
Each of the provisions of this ordinance are separable including word, clause, phrase or sentence and if any provision hereof shall be declared invalid, the remaining portion shall not be affected but shall remain in full force and effect.

SECTION 13. Repealing Provisions.
All ordinances or parts of ordinances in conflict herewith are hereby repealed.

First reading this 16th day of January, A. D. 1961.

Second, final reading and passage this 6th day of February A. D. 1961.

CITY OF BOYNTON BEACH, FLORIDA

(CORPORATE SEAL)

By _____
Mayor

_____
Councilman

_____
Councilman

ATTEST: _____
City Clerk

_____
Councilman

_____
Councilman

ORDINANCE NO. 94-12

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING CHAPTER 2. ADMINISTRATION, ARTICLE IX. , RENAMING THE "ADVISORY BOARD ON THE ELDERLY" AS "SENIOR ADVISORY BOARD"; PROVIDING FOR CONFLICTS, SEVERABILITY, CODIFICATION AND AN EFFECTIVE DATE.

WHEREAS, the Advisory Board on the Elderly was created by City Ordinance No. 92-13, adopted June 2, 1992, to identify the unmet needs of seniors in Boynton Beach and to make recommendations as to how those needs can be met; and

WHEREAS, at the request of the members of the Elderly Advisory Board, and upon review by the City Commission of the City of Boynton Beach, it has been determined that the term "elderly" does not identify all of those seniors, defined as people over age 55, who live in the City of Boynton Beach;

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. That Chapter 2. Administration, Article IX. Advisory Board on the Elderly shall be amended by adding the words and figures in underlined type and by deleting the words and figures in struck-through type, as follows:

Sec. 2-141. Creation.

The city commission, in accordance with the powers vested in it, hereby creates and establishes an ~~advisory board on the elderly~~ Senior Advisory Board. All references to the Elderly Advisory Board shall hereafter be construed to mean the Senior Advisory Board.

Section 2-142. Duties.

The ~~advisory board on the elderly~~ Senior Advisory Board shall act...

Sec. 2-144. Organization.

(a) The ~~advisory board on the elderly~~ Senior Advisory Board shall be ...

Sec. 2-146. Qualification.

The members of the ~~advisory board on the elderly~~ Senior Advisory Board shall be...

FIRST READING this 17 day of May, 1994.

SECOND READING AND FINAL PASSAGE this 7 day of June, 1994.

CITY OF BOYNTON BEACH, FLORIDA

Mayor

Vice Mayor

Mayor Pro Tem

Commissioner

Commissioner

ATTEST:

City Clerk

c:Elderly.brd
5/12/94

ORDINANCE NO. 092-13

AN ORDINANCE OF THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, ESTABLISHING AN ADVISORY BOARD ON THE ELDERLY; PROVIDING FOR PURPOSE; PROVIDING FOR ORGANIZATION; PROVIDING FOR QUALIFICATIONS OF BOARD MEMBERS; PROVIDING FOR TERMS OF OFFICE; PROVIDING FOR POWERS OF THE BOARD; PROVIDING FOR CONFLICTS; PROVIDING FOR SEVERABILITY; AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Boynton Beach, Florida has duly considered the Report of the Findings and Recommendations to the City Commission submitted by the Task Force on the Elderly dated April 28, 1992; and

WHEREAS, the City Commission of the City of Boynton Beach, Florida, deems it to be in the best interests of the citizens of the City to establish an Advisory Board on the Elderly which shall serve as a fact-finding and advisory board to the City Commission on issues related to elder affairs.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The "WHEREAS" clauses are hereby ratified and confirmed as being true and correct.

Section 2. CREATION. The City Commission, in accordance with the powers vested in it, hereby creates and establishes an Advisory Board on the Elderly.

Section 3. DUTIES. The Advisory Board on the Elderly shall act as a fact-finding and advisory board on the following issues and on such other issues as are, from time to time, designated by the City Commission by Resolution:

To assist the Elderly in:

A. Setting up a retired senior volunteer program known as RSVP to provide services for the homebound;

B. Seeking Federal and State grants to provide for services;

C. Monitor and lobby for legislation regarding the elderly;

D. Make arrangements for the medical mobile unit already in operation in Palm Beach County to bring it to the City of Boynton Beach;

E. Provide a pamphlet of available programs for seniors;

F. Provide a speakers bureau, workshops and educational meetings on topics of interest for seniors;

G. Recommend free legal programs and banking services for the homebound;

H. Provide recreation and social programs.

Section 4. RECOMMENDATIONS OF BOARD. The Board shall periodically advise the City Commission of its findings with respect to the foregoing issues and shall make recommendations to the City Commission on any matter referred to it within thirty (30) days or within such time as prescribed by the City Commission by specific Resolution.

Section 5. ORGANIZATION.

A. The Advisory Board on the Elderly shall be comprised of seven (7) permanent members and two (2) alternate members, all to be appointed by the City Commission. Of the members so appointed, four (4) shall be for a term of three (3) years, three shall be for a term of two (2) years. Their successors shall be appointed for a term of two (2) years. Alternate members shall be appointed for a period of one (1) year.

B. Any member failing to attend three (3) meetings shall be notified that one additional absence shall automatically forfeit his or her appointment to that board.

C. Any member of the Board may be removed for cause in accordance with State Law. The City Commission shall promptly fill any vacancy.

D. At the organizational meeting of the Board a Chairperson and Vice-Chairperson shall be selected by majority vote of the Board. The Chairperson and Vice-Chairperson shall be selected annually at the May meeting of the Board.

Section 6. MEETINGS. The Board shall meet regularly once a month, or more frequently if necessary, for the transaction of business. Its meetings shall be open to the public. The Board may establish its own meeting rules and procedures for the conduct of its business. Four (4) members shall constitute a quorum.

Section 7. QUALIFICATION. The members of the Advisory Board on the Elderly shall be residents of the City of Boynton Beach, Florida.

Section 8. POWERS. Nothing in this Ordinance shall be construed as restricting or curtailing any of the powers of the City Commission, or as a delegation to the Board of any of the authority or discretionary powers vested and imposed by law in the City Commission. The City Commission declares that public interest, convenience and welfare required the appointment of the Board to act in a purely advisory capacity to the City Commission for the purposes set forth in this Ordinance. Any powers delegated here to the Board to adopt rules and regulations shall not be construed as a delegation of legislative authority, but purely a delegation of administrative authority.

Section 9. That all ordinances or parts of ordinances in conflict herewith be and the same are hereby repealed.

Section 10. Should any section or provision of this ordinance or portion hereof, any paragraph, sentence, or word be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this ordinance.

Section 11. Authority is hereby granted to codify said ordinance.

Section 12. This ordinance shall become effective immediately upon passage.

FIRST READING this 19 day of MAY, 1992.

SECOND, FINAL READING and PASSAGE this 2 day of JUNE, 1992.

CITY OF BOYNTON BEACH, FLORIDA

Arline Weiner
Mayor

Lynne S. Matson
Vice Mayor

Commissioner

Edward Harmening
Commissioner

Robert J. Walshak
Commissioner

ATTEST:

Suzanne McKruse
City Clerk

(Corporate Seal)

ELDERLY.ORD
5/13/92
Rev. 5/29/92

Advisory Board Survey-3/2010

Jurisdiction	# of boards a person may serve on at one time	
Boca Raton	Multiple	No person may be appointed to two or more of the following boards: Board of Adjustment, General Employees Board of Trustees Pension Plan, Board of Trustees, Police and Fire Retirement Systems, Builders' Board of Adjustment and Appeals, Civil Service Board, Code Enforcement Board, Community Appearance Board, Contractors' Board, Planning & Zoning Board. Otherwise, members are permitted to serve on two boards or commissions.
Belle Glade	1	The members of the following boards/committees may not serve on any other board/committee if serving on one of the following: Belle Glade Hospitality Committee, Black Gold Jubilee Directors, Board of Adjustment, Civil Service Board, Code Enforcement Board, CRA, Housing Authority Board, Local Land Planning Agency (Planning & Zoning Board serves as the LPA), Nuisance Abatement Board, General Employees' Pension Board, Retired Public Safety Officers' Trust Fund; Planning & Zoning Board. Any other established boards/committees the members can serve on more than one board/committee without any requirements/stipulations.
Bradenton	Multiple	"Not aware of any conflicts of interest serving on multiple boards."
Clearwater	1	Only exception, is for ad hoc committees. (Residents can serve on an ad hoc board and a regular board at the same time.)
Delray Beach	1	In general, individuals may serve on only one board or committee at a given time, with the exception of ad-hoc committees or task forces.
Destin	Multiple	
Fort Lauderdale	1	Citizens may serve on multiple committees,
Greenacres	1	
Haverhill	Multiple	**May serve on more than one advisory board only. May not serve on more than one quasi-judicial** board.
Hypoluxo	N/A	Not applicable to this small municipality
Juno Beach, Town of	1	
Lake Park	Multiple	
Lantana	Multiple	
Lake Worth	Multiple	Members may serve on **only one quasi-judicial board** and **one** advisory board, or two advisory/ad hoc or task forces.
Loxahatchee Groves	Multiple	Please note that the town had only two committees and three members of one board served on the second board when people dropped off and the seats needed to be filled.
Manalapan	1	

Miami Beach	1	Sec. 2-23. Serving on more than one agency, board or committee.(a) No person shall be appointed or elected to, or serve on, more than one agency, board or committee of the city, whether such agency, board or committee is now existing or hereafter created or constituted under the state constitution, act of legislature, the Charter of the city, or any ordinance or resolution of the city commission. Any person appointed or elected to and accepting appointment or election to more than one agency, board or committee, whether appointive or elective, shall be deemed to have forfeited forthwith all appointment or election to any and all prior agencies, boards or committees in which he shall have been a member.
North Palm Beach	/	Members shall serve on only one village board or committee whwere membership on two boards or committees would violate the constitutional dual office-holding prohibition
Palm Beach, Town of	1	
Palm Beach Gardens	1	The person must step down if he/she wants to serve on another board. Resently started term limits.
Palm Beach Shores, Village of	1	
Palm Springs, Village of	1	
Riviera Beach	1	
Tamarac	Multiple	"Not aware of any conflicts of interest serving on multiple boards."
Titusville	1	"...It shall be the general policy of the city council in the appointment of persons to boards, commissions or committees to permit a person to serve on only one board, commission or committee except that said person may be appointed to temporary or special committees of short duration if other individuals are not available and there would be no conflict of interest with a person serving on more than one board or commission or unless the particular ordinance or resolution expressly authorizes dual membership..."
Town of Lake Clarke Shores	1	The Town will allow members of boards to service on various committee while they serve on a board.
Town of Palm Beach Shores	1	
Wellington	1	
Venice	1	Does not allow a person to serve on more than one decision-making board at a time. However, an individual may serve on more than one board if those boards do not make decisions. (Planning Commission vs. Parks and Rec Advisory are examples of decision making and non decision making.)
West Palm Beach	1	
Weston		City has no permanent advisory boards.

31 - 20 - 1
9 - 2+
2 - N/A

ADVISORY BOARD SURVEY OF PALM BEACH COUNTY MUNICIPALITIES

NAME OF CITY	# OF BOARDS	SERVE ON MULTIPLE BOARDS	PROFILE FORM REQUIRED	ARE THERE SPECIFIC REQUIREMENTS TO SERVE	INFORMATION PROVIDED TO NEW BOARD MEMBERS	ATTENDANCE POLICY?	NON-ATTENDANCE NOTIFICATION POLICY	# OF ABSENCES ALLOWED	GUIDELINES FOR ABSENCES DUE TO CRISES	NON-ATTENDANCE POLICY?	NOTIFICATION OF VIOLATION OF ABSENCE POLICY	CONDUCT STANDARDS?	BOARD TERM LIMITS?
City of Boynton Beach	17	N	Y	Y	Y	Y	Y	3	N	N	Y	Code of Ethics & Sunshine Laws	2 & 3 years
City of Delray Beach	19	N	Y	*	Y	Y	Y	---	N	Y	Termination	Y	2
City of Greenacres	8	N	N	*	Y	Y	Y	---	N	Y	N	N	3 yrs – unlimited
Highland Beach	6	N	N	*	Y	Y	N	1/3 of mtgs.	Y	Y	Y	N	2-3 Years
Town of Hypoluxo	2	N	Y	*	Y	N	N	---	N	N	N	N	None
Juno Beach	3	Y	N	FL. STATUTES	Y	N	N	P&Z – 3	N	N	N	Sunshine Laws	None
Town of Lake Park	11	Y	Y	County Elector	Y	Y	Y	3 unexcused	Y	N/A	Y	N	6 years
Town of Manalapan	6	N	Y	*	Y	N	N	---	N	N	N		2
Village of North Palm Beach	9	N	Y	*	Y	Y	N	3 unexcused	N	N/A	N/A	N	2-3 years
Village of Palm Springs	9	N	N	*	Y	Y	N	5	N	N	Termination	N	3 years
Village of Royal Palm Beach	7	N	Y	*	Y	Y	N	2	N	N	N/A	Y	4 bds – 2yr terms 3 bds w/3 yr terms
West Palm Beach	20	N	N	*	Y	Y	Y	3	N	Y	Y	Robert's Rules	2

*Must be a City Resident

\\CH\MAIN\SHRDATA\CC\WP\BOARDS\Survey\Survey Results 10-16-01.doc

HISTORY OF DISCUSSIONS ON ADVISORY BOARD APPOINTMENTS – MULTIPLE BOARDS

01/01/73 – Discussion – no one person serve on more than one board. It is not fair to impose burdens on them and possibly cannot attend to their duties. Motion made and passed unanimously a member can only serve on one board at a time.

11/21/89 – Vice Mayor pointed out many applications yet some are appointed to serve on two board. Suggestion made to limit service to one board. Comment made that the applicants were not qualified. Motion made to limit service to one board passed 3-1.

11/6/01 – Agenda item submitted with recommendation to continue practice of allowing service on only one board. Survey was taken of other city practices. Commission discussed advisory board membership, attendance and performance standards. Comments included Commissioners serve on more than one committee or board; not allow service on two quasi-judicial boards; more than enough volunteers and serving on more than one board would result in a loss of diversity; marketing of boards was needed. There was consensus to draft an ordinance clarifying to attendance.

10/4/04 – Commissioner McCray agreed with citizen that citizens be allowed to serve on more than one board.

02/01/05 – Mayor Taylor responded to citizen that no Commissioner had been willing to take up the cause of serving on two boards.

02/05/08 – Mayor Taylor and Commissioner Ross want to consider serving on two boards. Commissioner Hay did not feel enough was being done to solicit volunteers to serve. New members should be given a chance first. A review of the process was suggested and the online application was considered to be cumbersome.

04/20/10 – Survey of other cities was submitted that revealed 31 municipalities were contacted indicating 20 cities allow membership on one board, 9 allow service on multiple boards and 2 cities did not respond. Diversity on the boards was needed and alternates are often used in place of regular members. It was stressed that limiting the participation would not impact filling seats on boards. Motion made to allow sitting as a regular on one board and alternate on another that passed 4-1.

06/20/17 – The prior practice established in 2010 was continued.

Commissioner McCray said before he makes an appointment. He requested clarification regarding residents that are serving on multiple boards, how this affect an appointee.

Judith A. Pyle, City Clerk said she did look into this situation. This was reviewed in 2010. At that time, a motion was made to allow for a resident to serve on two boards. Ms. Pyle advised the appointee can serve on two boards; one as a regular board member and one as an alternate.

Commissioner Romelus wanted to know how this would affect Ms. Susan Oyer. She was already serving on two boards as regular members already.

Ms. Pyle said that she would need to become an alternate on one of the boards; if there was availability.

Commissioner McCray asked Ms. Oyer if she was selected; would she be willing to drop one of the other boards.

Ms. Oyer, had spoken with the Clerk regarding this matter. She would do whatever was needed.

Commissioner McCray said that he would nominate Susan Oyer as an alternate on the Planning and Development Board.

Ms. LaVerriere, said that this was something that changes with the Commission. This can be changed at any time by amending the ordinance.

Motion

Commissioner McCray nominated Susan Oyer to the Planning and Development Board as an Alternate member. Motion seconded by Commissioner Romelus.

Vote

Unanimously passed.

Motion

Commissioner Romelus nominated Chris Simon as a regular Library Board member. Seconded by Commissioner McCray.

Vote

Unanimously passed.

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: April 20, 2010

NATURE OF AGENDA ITEM	☐	OPENINGS	☐	PUBLIC HEARING
	☐	OTHER	☒	CITY MANAGER'S REPORT
	☐	ANNOUNCEMENTS/PRESENTATIONS	☐	FUTURE AGENDA ITEMS
	☐	ADMINISTRATIVE	☐	NEW BUSINESS
	☐	CONSENT AGENDA	☐	LEGAL
	☐	BIDS AND PURCHASES OVER $100,000	☐	UNFINISHED BUSINESS
	☐	CODE COMPLIANCE AND LEGAL SETTLEMENTS		

REQUESTED ACTION BY CITY COMMISSION: Review staff recommnedation concerning residents/volunteers serving on more than one Advisory Board and permit staff to conduct further review of the City's Advisory Board program.

EXPLANATION OF REQUEST: Over the past several meetings the City Commission has discussed whether or not current advisory board members should be permitted to serve on more than one board. Our current Advisory Board Listing is attached (Exhibit A). Staff broadcasted a request to Florida cities requesting their guidelines on board membership. The survey results are attached (Exhibit B). The majority of the respondents restrict members from serving on multiple boards. However, there are cities that do allow it. One general theme we found was that many cities had restrictions on serving on "quasi-judicial" boards. Staff consulted with our legal department and concluded that a member serving on a quasi-judicial board, i.e. the Planning & Development Board, the Code Enforcement Board or the Building Board of Adjustments & Appeals, should not serve on a secondary board due to potential conflicts.

The Building Board of Adjustment and Appeals, the Code Enforcement Board and the Planning and Development Board all have limited final authority to take action on certain matters they review. Because of that authority they are not purely advisory boards. The delegation of final authority to those Boards results in board members holding "office" as that term is used for dual office holding purposes. As a result of that designation an individual on one of those three boards may not serve on other boards.

Staff reviewed minutes (Exhibit C) dating back to 1973 where the Commission had some form of discussion on sitting on multiple boards. For the most part the prior Commissions' intent was to not allow multiple board membership.

Staff recommendation:

Advisory Board members be permitted to serve on multiple boards with the exception of our quasi-judicial boards: Code Compliance Board, Building Board of Adjustment & Appeal and Planning & Development Board. If a member sits on any of the above mentioned boards they should be restricted from serving on any other advisory board.

Advisory Board Program Review:

As the Commission knows there have often been times where we've struggled to fill our Advisory Boards. Staff has developed marketing plans to improve membership and they have been effective. However, this issue continues to arise. Staff feels this may be an opportune time to review the entirety of our Advisory Board Program, in terms of board structure, board purpose, board accomplishments, goal setting, training, membership and promoting volunteerism, etc.

With the Commission's approval staff will conduct a review of the program and report back to the Commission with recommendations for revisions. A brief outline of our review process is:

1. Reference the American Assembly Recommendations regarding Advisory Boards.
2. Research the purpose, goals and objectives of each Advisory Board through the City Code of Ordinances.
3. Interview current Advisory Board members to learn about their roles on the Advisory Boards and what they would like to be doing in the future.
4. Create a Comparative Gap Analysis of the gathered information.
5. Seek Public Engagement through mechanisms such as surveys, public forums and local charrettes to determine community need.
6. Provide to Commission staff recommendation of goals and objectives for existing Advisory Boards and possible deletions and/or additions of Advisory Boards.
7. Provide to Commission staff recommendation on revised structure for Advisory Boards to increase community interest and volunteerism.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? Allowing board members to serve on multiple boards will have minimal impact on the program management. In terms of the overall program review, staff will provide recommendations to enhance our current advisory board program.

FISCAL IMPACT: N/A. Staff time to be utilized for program review.

ALTERNATIVES: 1) Not permit multiple board membership; 2) modify staff's recommendation; and/or 3) not permit further program review.

Attachments:

Exhibit A – Advisory Board List
Exhibit B – Survey of other cities
Exhibit C – Minutes of previous discussions

was tabled for review of documentation submitted. Lori LaVerriere, Assistant City Manager, advised the direction had been for a franchise fee with seven vendors. Staff found it would be doubtful that tow companies would want to participate in such a program and would not recommend moving forward with that type of model. She reiterated the original recommendation for the Commission to go with an exclusive franchise agreement or non-exclusive with possibly two or three vendors as a revenue source for the City. Ms. LaVerriere stressed that with two or three vendors there was no way to control the number of tows and it may not be equitable for each to pay the same franchise fee.

Commissioner Holzman recommended an RFP be issued without limiting the numbers and see what the market would dictate. Ms. LaVerriere replied the vendors would not have a basis to calculate their franchise fee because the amount would change if they were exclusive or shared with two or even three vendors. It would result in lower franchise fees being bid. Commissioner Holzman favored option B with some sort of way to establish a market value without limiting the number of vendors. Commissioner Hay supported option B. Commissioner Orlove agreed with Commissioner Holzman, but opted to support option B. Vice Mayor Ross wanted option C. According to Attorney Cherof, another option would be to not specify the number of responders to be selected. It would result in establishing the fair market value and then the decision can be how many to select. Ms. LaVerriere reported the full RFP had not been completed as yet. Mayor Rodriguez wanted assurances that the RFP would encompass all aspects of the City's towing needs. The recommendation was that all City tows be free which was an industry standard.

Motion

Vice Mayor Ross moved to approve option B, except modify the statement, and after the phrase, " . . . for our towing business." and delete the rest per the City Attorney. Commissioner Orlove seconded the motion. The motion passed unanimously.

Dan Miller, representing Eastern Towing and Dave Floering, attempted to comment and Mayor Rodriguez explained there was no public comment permitted on City Manager Reports. Mr. Miller persisted and indicated Mr. Floering had been sent a letter inviting him to participate in the discussion by the City Manager's office. Mayor Rodriguez understood they were invited to come, but the criteria is clear and there would be no public input. Attorney Cherof explained the rules are published with the agenda package, there is no public comment allowed under the Report section of the agenda. The Commission rules do not permit input notwithstanding the letter.

B. Review staff recommendation concerning residents/volunteers serving on more than one Advisory Board and permit staff to conduct further review of the City's Advisory Board program.

Ms. LaVerriere indicated survey results revealed that most municipalities do not allow dual service on boards. Some did, with the caveat of serving on only one quasi-judicial board. Staff made that recommendation.

Commissioner Orlove appreciated staff's thorough review and he agreed with having diversity on the boards. He suggested that a regular board member could only sit as an alternate on another board giving more of any option for diversity. Commissioner Holzman supported the suggestion. Mayor Rodriguez thought the limitation would defeat the purpose of serving on two boards. Commissioner Orlove pointed out alternates are often given the opportunity to vote and are active participants.

Commissioner Hay supported the concept of a regular member on one board and an alternate on the other, except quasi-judicial boards. Commissioner Orlove pointed out that all the vacancies are for alternates. Mayor Rodriguez reiterate his position that by limiting the participation it would not impact filling seats.

Motion

Commissioner Holzman moved to approve the recommendation of Commissioner Orlove that the individual sit on one board and then only as an alternate on another. Commissioner Hay seconded the motion. The motion passed 4-1 (Mayor Rodriguez dissenting).

Ms. LaVerriere sought approval to move forward with an overall review of the advisory board program, their purposes, effectiveness, the need and complete an overview. There was consensus to allow staff to continue the review.

C. Approve a proposal from Academy Roofing & Sheet Metal Co. for the installation of a temporary rubber roofing system at the Old High School in the amount of $18,800.

Jeff Livergood, Director of Public Works and Engineering, reported the Old High School had a leaking roof over the gymnasium and the City had installed a very inexpensive tarp over the roof. The tarp did not last. The proposal would provide a better roofing system over the old roof, particularly over the gymnasium. The entire roofing system would need to be replaced when the building is renovated. There would be an alternative of doing nothing. He advised the aesthetics and value of the building to many is the exterior. The interior would require extensive renovation. The proposed roofing would not extend the life of the building. The floor in the gym was already totally rotten. In Mr. Livergood's opinion the roof would not save anything in the interior. If nothing was done the floor would get worse, but it is not in a condition that can be renovated. It will have to be replaced regardless of any further damage. The funds would be taken out of small scale projects. The project was not budgeted. Vice Mayor Ross recalled a recommendation had been made that the roof had to be stabilized. Mayor Rodriguez added it would be some time before the building is renovated and he

C. Recommended Procedure for Sale or Conveyance to the CRA of Property Owned by the City in the Heart of Boynton.

Mr. Bressner reported the parcels are generally located east of east of Seacrest between 9th and 11th and Federal Highway. It did not include the properties the City owned west of Seacrest near Poinciana school. It would cover the original area of Phase I of the Heart of Boynton plan. It was proposed the value would be the greater of the initial purchase price or the value of property as established by a 2008 letter appraisal for each of the properties. A reverter clause may have an impact on the purchase price and the deed restriction would follow the property. Attorney Cherof advised the CRA could request a waiver of the reverter clause from the County.

Mayor Taylor summarized the request was to transfer the properties to the CRA for a price to be determined.

Motion

Commissioner Hay moved to authorize transfer of the properties to the CRA for a price to be determined.

There was discussion on the cost of appraisals and the need for both the CRA and City to have appraisals done. Attorney Cherof offered that the CRA and City could enter into an agreement to designate one appraiser and be bound by the number. There was a recommendation to agree upon a joint appraisal.

Motion

Commissioner Hay repeated his motion and added the City and CRA come together with an appraiser. Vice Mayor Rodriguez seconded the motion. The motion passed unanimously.

D. Review and approve implementation of marketing plan for volunteerism and the City's advisory boards.

Wayne Segal, Public Affairs Director, reviewed the pending vacancies for the advisory boards. The marketing plan was established to assist with recruitment efforts to fill the vacancies. On a national level, volunteerism is at a very high rate. Educating the citizens about the functions and duties of the advisory boards is a key component to increase participation.

Mayor Taylor noted only four of the vacancies related to regular board positions. The others are alternate positions.

Herb Suss, 1711 Woodfern Drive, reiterated his contention that volunteers should be allowed to serve on more than one board even if the second position is an alternate.

Mayor Taylor and Commissioner Ross felt it was worth considering. Commissioner Hay did not feel enough effort had been made to solicit new volunteers. He was hopeful the new plan would encourage more participants and those efforts should be given a chance first. Commissioner Ross suggested a review of the process other municipalities utilize may be helpful

also. Vice Mayor Rodriguez noted the online application process was cumbersome and should be made more user friendly. An email blast would also be useful.

Mayor Taylor congratulated Mr. Suss on his appointment as chair of the Golf Course Advisory Committee.

X. FUTURE AGENDA ITEMS:

A. Discussion of disposition of Old High School – February, 2008

B. Recommendations and Action Plan on City Green Task Force – February 19, 2008

C. Discussion of funding electronic agenda software

XI. NEW BUSINESS:

None

XII. LEGAL:

A. Ordinances - 2nd Reading - Development - PUBLIC HEARING

None

B. Ordinances - 2nd Reading - Non-Development - PUBLIC HEARING

1. **Proposed Ordinance No. 08-002** RE: Amending Part III, Land Development Regulations, Chapter 20, Buildings, Housing and construction Regulations, Article I, in general by amended Section 4, Fees, Subparagraph a; providing for building division fees.

Attorney Cherof read Proposed Ordinance No. 08-002 on second reading.

Mayor Taylor opened the issue for public hearing. No one coming forward, Mayor Taylor closed the public audience.

Motion

Vice Mayor Rodriguez moved to approve Proposed Ordinance No. 08-002. Commissioner Hay seconded the motion. The motion passed unanimously.

Vote

City Clerk Prainito called the roll. The vote was 5-0.

C. Ordinances - 1st Reading

Mr. Suss expressed his strong disapproval of the CRA spending money to go on a retreat to Naples. He thought it should have been held in Boynton Beach. He was also concerned that the CRA was not moving fast enough and that the City should reconsider whether or not the CRA should continue in its present form.

Mr. Suss commented on the many times he heard from the dais that appointments were passed on due to lack of candidates for Boards. He wanted the City to consider allowing individuals to serve on more than one Board. Mayor Taylor responded that Mr. Suss had brought this idea up several times, but no one had been willing to take up that cause.

Mayor Taylor commented that when the City considered the Visions 20/20 Plan, one hundred people went out of the City. The CRA was planning multi-million dollar projects and needed to be able to focus on this without distractions. The CRA is having its retreat in a town that went through revitalization and this is why it was chosen. Mayor Taylor did not feel that the amount of money they were spending was exorbitant, especially since it was during "the season."

Alan Silverstein, attorney representing **Jafus & Bonnie Crawford of 121 N.E. 16th Avenue, Boynton Beach,** came to the podium. The Crawfords were given a reduction in their Code Compliance lien to $730.00 from the original $40,830.15. They were given 90 days to pay the $730.00. When they did not pay within the 90 days, the lien reverted back to $40,830.15. The Crawfords were applying to refinance their home and the $730 would have been paid out of the proceeds of that sale. The Crawfords lost track of the time. The refinance is ready to go forward now, but cannot proceed because of the lien against it. He stated that this property was Homesteaded by the Crawfords and the way he understood the City's Code, no lien would apply to Homesteaded property. He was advised to come before the City Commission and present the situation.

Mayor Taylor asked whether the Commission would be allowed to give the Crawfords some relief in this situation. City Attorney Cherof stated that it would have to be added to the Agenda and also, the Code provision that Mr. Silverstein alluded to contained language that no extensions of the 90-day period shall be permitted. No further action by the Code Board or the City Commission is permitted regarding lien reduction. That was a very firm 90-day period. If it gets added back on the agenda, he would see if there were some way to interpret this differently. City Attorney Cherof asked Mr. Silverstein to call him on the day following this meeting to discuss this. Mayor Taylor asked that this item be put on the Agenda for the February 15, 2004 meeting.

Since no one else wished to speak, the public audience was closed.

V. ADMINISTRATIVE:

A. Appointments to be made:

Appointment To Be Made		Board		Length of Term Expiration Date	
II	McCray	Advisory Bd on Children & Youth	Alt	1 yr term to 4/05	(Tabled 3)
III	Ferguson	Advisory Bd on Children & Youth	Alt	1 yr term to 4/05	(Tabled 3)
Mayor	Taylor	Bldg. Bd of Adj & Appeals	Reg	3 yr term to 4/07	
I	Enster	Bldg. Bd of Adj & Appeals	Reg	3 yr term to 4/07	
II	McCray	Bldg. Bd of Adj & Appeals	Alt	1 yr term to 4/05	
III	Ferguson	Bldg. Bd of Adj & Appeals	Alt	1 yr term to 4/05	
Mayor	Taylor	Cemetery Board	Alt	1 yr term to 4/05	(Tabled 3)
III	Ferguson	Code Compliance Board	Alt	1 yr term to 4/05	(Tabled 3)
IV	McKoy	Code Compliance Board	Alt	1 yr term to 4/05	
IV	McKoy	Education Advisory Board	Alt	1 yr term to 4/05	(Tabled 3)
II	McCray	Education Advisory Board	Alt	1 yr term to 4/05	(Tabled 3)
III	Ferguson	Education Advisory Board	Stu	1 yr term to 4/05	(Tabled 3)
IV	McKoy	Education Advisory Board	Stu	1 yr term to 4/05	(Tabled 2)

Vice Mayor Ferguson appointed Jeffrey Andre as a Student Member of the Education Advisory Board.

Motion

Commissioner McCray moved for approval. Motion seconded by Commissioner McKoy and unanimously carried.

All other appointments were tabled.

Commissioner McCray agreed with Mr. Suss' recommendation that people be allowed to [redacted] on more than one Board. serve

VI. CONSENT AGENDA:

Matters in this section of the Agenda are proposed and recommended by the City Manager for "Consent Agenda" approval of the action indicated in each item, with all of the accompanying material to become a part of the Public Record and subject to staff comments.

A. Minutes:

1. City Commission Public Hearing on Fire Assessment– September 14, 2004

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

Requested City Commission Meeting Dates	Date Final Form Must be Turned in to City Clerk's Office	Requested City Commission Meeting Dates	Date Final Form Must be Turned in to City Clerk's Office
☐ July 17, 2001	July 5, 2001 (5:00 p.m.)	☐ September 19, 2001	September 5, 2001 (5:00 p.m.)
☐ August 7, 2001	July 18, 2001 (5:00 p.m.)	☐ October 2, 2001	September 20, 2001 (5:00 p.m.)
☐ August 21, 2001	August 8, 2001 (5:00 p.m.)	☐ October 16, 2001	October 3, 2001 (5:00 p.m.)
☐ September 4, 2001	August 22, 2001 (5:00 p.m.)	☒ November 6, 2001	October 17, 2001 (5:00 p.m.)

NATURE OF AGENDA ITEM

- ☐ Administrative
- ☐ Consent Agenda
- ☐ Public Hearing
- ☐ Bids
- ☐ Announcement
- ☒ City Manager's Report
- ☐ Development Plans
- ☐ New Business
- ☐ Legal
- ☐ Unfinished Business
- ☐ Presentation

RECOMMENDATION: **Motion to continue the current practice of prohibiting members from serving on more than one advisory board and maintain our existing policy of allowing three absences from regularly scheduled advisory board meetings.**

EXPLANATION: The Commission directed staff to investigate the possible adoption of an Ordinance that would allow board members to serve on more than one advisory board. At the same time, the investigation included a review of our current absence policy for board members and the feasibility of adopting conduct standards.

In order to determine the practices of other municipalities, the City Clerk's Office conducted a survey of all municipalities within Palm Beach County. Twelve cities responded. After evaluating the responses, we determined that our current policy of not allowing members to serve on more than one advisory board is consistent with the practices of the overwhelming majority of respondees. In addition, our existing absence policy is also consistent, with three absences being the maximum number allowed. With respect to conduct standards, the City of Boynton Beach supplies new members with the *"Guide to the Sunshine Amendment and Code of Ethics"* which is furnished by the Florida Commission on Ethics. Therefore, in this area, the City of Boynton Beach is providing more information to its board members than 2/3 of those cities that responded.

PROGRAM IMPACT:

FISCAL IMPACT:

ALTERNATIVES:

Janet M. Prainito / Wilfred Hawkins
Department Head's Signature

City Manager's Signature

City Clerk

\\CH\MAIN\SHRDATA\CC\WP\BOARDS\Survey\Agenda Item Request Form - Recommendation - Survey Results.dot

S:\BULLETIN\FORMS\AGENDA ITEM REQUEST FORM.DOC

Memo

To: **Kurt Bressner**
City Manager

From: Janet M. Prainito
City Clerk

CC: Wilfred Hawkins, Jim Cherof, Patricia Spoerri

Date: 10/18/01

Re: **Advisory Board Survey Information**

RECEIVED
OCT 18 2001
CITY MANAGER'S OFFICE

On October 9, 2001, I e-mailed advisory board surveys (copy attached) to all municipalities within Palm Beach County. Of those cities surveyed, 12 responded. The results of the survey are as follows:

- The average number of advisory boards is 11 per city with the City of Delray Beach having 20 and the Town of Hypoluxo having two.
- In 10 of 12 instances, board members do not serve on more than one board.
- Seven cities require submittal of a profile form.
- Nine of the 12 cities require City residency for service on advisory boards.
- All of the cities provide new members with information upon appointment.
- Nine of the cities have attendance policies.
- Five cities have non-attendance notification requirements.
- Eight of the cities limit the number of absences to an average of three. Four cities do not impose a limit.
- Ten of the 12 cities do not have absence policies in place to cover crises.
- Four cities have a notification policy in place to advise members of violation of the absence policy and two cities automatically terminate violators. The remaining six cities have no notification policy in effect.

- With respect to conduct standards, five cities provide some information that includes *the "Guide to the Sunshine Law and Code of Ethics"*, issued by the Florida Commission on Ethics, and/or *"Robert's Rules of Order"*.

- The majority of cities have two and three-year terms for members.* Two cities have no term requirements and one city has three-year unlimited terms. (*The cities did not indicate if the member could be reappointed.)

Although I requested copies of profile forms, attendance policies, and Ordinances, only the City of Delray Beach and the Village of North Palm Beach provided that information. I have attached copies for your review. I have also enclosed copies of a typical packet of information that the City Clerk's Office provides to new appointees.

If I can be of additional service, please advise.

Janet M. Prairito

Attachments

jmp
J:\SHRDATA\CC\WP\BOARDS\Survey\Transmittal of Advisory Board Survey Information.doc

ADVISORY BOARD SURVEY OF PALM BEACH COUNTY MUNICIPALITIES

NAME OF CITY	# OF BOARDS	SERVE ON MULTIPLE BOARDS	PROFILE FORM REQUIRED	ARE THERE SPECIFIC REQUIREMENTS TO SERVE	INFORMATION PROVIDED TO NEW BOARD MEMBERS	ATTENDANCE POLICY?	NON-ATTENDANCE NOTIFICATION POLICY	# OF ABSENCES ALLOWED	GUIDELINES FOR ABSENCES DUE TO CRISES	NON-ATTENDANCE POLICY?	NOTIFICATION OF VIOLATION OF ABSENCE POLICY	CONDUCT STANDARDS?	BOARD TERM LIMITS?
City of Boynton Beach	17	N	Y	Y	Y	Y	Y	3	N	N	Y	Code of Ethics & Sunshine Laws	2 & 3 years
City of Delray Beach	19	N	Y	*	Y	Y	Y	---	N	Y	Termination	Y	2
City of Greenacres	8	N	N	*	Y	Y	Y	---	N	Y	N	N	3 yrs – unlimited
Highland Beach	6	N	N	*	Y	Y	N	1/3 of mtgs.	Y	Y	Y	N	2-3 Years
Town of Hypoluxo	2	N	Y	*	Y	N	N	---	N	N	N	N	None
Juno Beach	3	Y	N	FL. STATUTES	Y	N	N	P&Z – 3	N	N	N	Sunshine Laws	None
Town of Lake Park	11	Y	Y	County Elector	Y	Y	Y	3 unexcused	Y	N/A	Y	N	6 years
Town of Manalapan	6	N	Y	*	Y	N	N	---	N	N	N		2
Village of North Palm Beach	9	N	Y	*	Y	Y	N	3 unexcused	N	N/A	N/A	N	2-3 years
Village of Palm Springs	9	N	N	*	Y	Y	N	5	N	N	Termination	N	3 years
Village of Royal Palm Beach	7	N	Y	*	Y	Y	N	2	N	N	N/A	Y Robert's Rules	4 bds – 2yr terms 3 bds w/3 yr terms
West Palm Beach	20	N	N	*	Y	Y	Y	3	N	Y	Y	Y	2

*Must be a City Resident

\\CH\MAIN\SHRDATA\CC\WP\BOARDS\Survey\Survey Results 10-16-01.doc

The consensus of the Commission was to leave the rate as it is. City Manager Bressner suggested that this item be placed on a future agenda in six months for review.

B. Report on City Advisory Board Membership, Attendance and Performance Standards (survey results)

City Manager Bressner reported on the results of a survey conducted by the City Clerk's office. The past practice of Boynton Beach is consistent with other communities. The majority of other municipalities do not allow membership on more than one board. The City's policy on three absences seems to be the standard. For boards with more than one meeting a month, the ordinance should be amended to modify that standard so that there is consistency.

Herb Suss said that the City has difficulty filling City boards. He urged that the code be changed so that citizens can serve on a second board. He also said that illnesses and religious holidays should be taken into consideration.

Commissioner Fisher commented that many of the City Commissioners serve on other boards and still get their jobs done. There are many board vacancies and he cannot think of a negative reason not to allow service on more than one board.

Mayor Broening said he would not want someone to serve on both the Planning & Development Board and the CRA Board or on two quasi-judicial boards. However, he does not have a problem with someone serving on two boards.

Commissioner Ferguson thought that people could be found to fill board vacancies. If people [redacted] on more than one board, he feels that the City would lose diversity.

City Manager Bressner reported that, according to the survey, Delray Beach, West Palm Beach and Boynton Beach have the largest number of boards and they all have the same standards. He suggested that the City advertise these boards more and market them better.

The consensus of the Commission was to request that the Legal Department draft an ordinance clarifying attendance standards for advisory boards that meet more than once a month.

C. Authorize staff to proceed with the necessary work to relocate voice and data communication equipment from the Mangrove Park High School at a cost not to exceed $25,000

Quintus Greene, Director of Development, said he could provide a more detailed report at the next Commission meeting. However, whether the old high school building stays or is demolished, there is some equipment essential to the operation of the City Complex that needs to be removed from the building and relocated. The cost for this relocation will not exceed $25,000.

Peter Wallace, ITS Director, explained that equipment providing telephone and P.C. service to the museum, the Art Center and the Code Compliance trailer must be relocated. In response to a question regarding why this equipment had been stored at the old high school, Mr. Wallace

requested that this topic be TABLED until the first meeting in December. The Commission agreed.

7. John Guidry trip to France

Interim City Manager Toney explained Mr. Guidry had been authorized to attend an International Conference on Ground Water which is being held in France. Five days authorized conference leave were granted by former Interim City Manager Hunt. $350 for travel expenses were denied by Mr. Hunt. Mayor Moore thought the Commission should be privy to these things before a member of staff makes a trip out of the country like this.

8. Propose preparation of a report on Utility Bond Issue expenses

This item was considered as part of the Prudential Bache presentation earlier in the meeting and labeled OLD BUSINESS, "E."

B. Items for Discussion requested by Vice Mayor Robert Olenik, Jr.

1. Pool of people who volunteered to serve on Boards (Previously TABLED)

Vice Mayor Olenik moved that this topic be removed from the table. Commissioner Weiner seconded the motion which carried 4 - 0.

Vice Mayor Olenik made remarks regarding the number of talent bank forms that have been submitted of citizens willing to serve on City boards and yet in some cases one person has been appointed to serve on more than one board. He felt the Commission should limit the volunteers to serve on one board only. Commissioner Weiner agreed. Discussion took place. In connection with the last appointment he had to make, Commissioner Wische noted that he went through all the talent bank forms and found it difficult to find a qualified person. If a person had not volunteered to switch boards in this case, he couldn't come up with a person.

Commissioner Weiner moved that there be a policy that citizens are encouraged to participate in the workings of the City by limiting people to serving on one advisory board at a time. Vice Mayor Olenik seconded the motion. Discussion took place. Commissioner Weiner amended her motion to indicate that persons currently serving on two board will be allowed to complete their current terms. The Vice Mayor amended his second. The motion carried 3 - 1. The Mayor voted against the motion.

MINUTES
SPECIAL CITY COUNCIL MEETING
JANUARY 1, 1973

Appointment of City Officials

City Attorney

Mr. Wallace moved to appoint Mr. Ernest Simon and Associates as City Attorney, seconded by Mr. Harmening.

Mr. DeLong moved that the nominations be closed, seconded by Mr. Harmening. Motion carried 5-0.

City Judge

Mr. Harmening moved to appoint Monroe A. Coogler, Jr. as City Judge, seconded by Mr. Wallace. Mr. DeLong moved that nominations be closed.

Mr. Harmening gave brief background information about Mr. Coogler.

Motion carried 5-0.

Judge ad litem

Action was deferred until the next meeting.

City Prosecutor

Mr. Roberts nominated Louis H. Casson for City Prosecutor, seconded by Mr. Harmening.

Mr. DeLong moved that the nominations be closed, seconded by Mr. Wallace. Motion carried 5-0. Motion to appoint Louis Casson as City Prosecutor carried 5-0.

City Manager

Mr. Wallace suggested since we are without a City Manager that the City Clerk be in charge of City Hall, and that all pertinent decisions be referred to the City Council until a City Manager is appointed.

Mr. Wallace moved that in the absence of a City Manager, the City Council will act as City Manager and the City Clerk will be in charge of City Hall, seconded by Mr. DeLong. Motion carried 5-0.

Appointments to Boards and Committees

Mr. Roberts suggested that no one person serve on more than one board. It is not fair to impose burdens on them, and possibly cannot attend to their duties.

Mr. DeLong moved that members appointed to a board can only serve on one board at a time, seconded by Mr. Wallace. Motion carried 5-0.

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
Discussion on Public Art as requested by Vice-Mayor Katz.

EXPLANATION OF REQUEST:

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT: Budgeted

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Staff will prepare a list of legislative priorities for the 2018 legislative session for the Commission's input and approval. - **December 19, 2017**

EXPLANATION OF REQUEST:

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT:

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION:

Is this a grant?

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Quarterly report on red light camera program (Oct 2017-Dec 2017) - **January 2018**

EXPLANATION OF REQUEST:

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT: Budgeted

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Quarterly report on gov't surtax fund (Oct 2017-Dec 2017) - **January 2018**

EXPLANATION OF REQUEST:

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT: Budgeted

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Staff to research possibility of allowing dogs at the beach during certain hours and bring back to Commission - **TBD**

EXPLANATION OF REQUEST:

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT:

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: The Commission has requested for a representative of ATS attend a commission meeting to discuss possible additional features/services - **TBD**

EXPLANATION OF REQUEST:

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT:

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
PROPOSED ORDINANCE NO. 17-021 - SECOND READING - Approve Town Square Future Land Use Map Amendment from Public and Private Governmental/Institutional (PPGI) and High Density Residential (HDR) to Mixed Use Medium (MXM) and rezone from PU Public Usage, REC Recreation and R-3 Multifamily to MU-3 Mixed Use 3 zoning district. City-initiated.***(First Reading approved 8/15, Second Reading Pending Fl. Dept. of Economic Opportunity approval, which takes approximately 2 to 4 months.)***

PROPOSED ORDINANCE NO. 17-022 - SECOND READING - Amending Ordinance 02-013 to Rezone a Parcel of Land Described Herein and Commonly Referred to as Town Square From Public Usage (Pu); Recreation (Rec) And Multifamily (R-3) to Mixed Use 3 (Mu-3).

EXPLANATION OF REQUEST:
This future land use amendment and rezoning have been initiated by City staff in preparation for the redevelopment of the civic campus, now referred to as Town Square, into a mix use project. The project is proposed as a partnership between the City, the CRA and the private development team, based on the Public-Private Partnership (P3) development model pursuant to Chapter 255.065, Florida Statutes. In addition to the civic campus, the subject actions apply to the property occupied by the Park Lane Condominium, a small condominium development partially surrounded by the project area.

At present there is no formal, full Master Plan application for the project accompanying the zoning request. Since 2015, the City has been able to proactively initiate and process future land use reclassifications and rezonings to selected sites for which there already is a specific vision, supported by a redevelopment or other plan of major importance. The subject request meets this criterion, as the Town Square project is supported by both the CRA Plan and the City's Strategic Plan. The proposed Mixed Use Medium (MXM) future land use category implements the CRA Plan's FLU recommendation for the property.

The maximum density for the MXM is 50 du/acre. However, since the site is located within the Downtown Transit-Oriented Development (DTOD) district, its redevelopment density can potentially be increased by 25%, to 63 du/acre. Currently, the City is considering linking eligibility for a 25% density bonus to participation in the Workforce Housing Program.

Since the site exceeds 10 acre, the amendment, if approved, will have to undergo state review prior to the City final approval. Moreover, the requested Mixed Use Medium FLU classification, as well as the MU-3 zoning district, require updates to the regulatory framework, including the Comprehensive Plan Future Land Use Element and the Land Development Regulations (LDRs).

The Comprehensive Plan amendments were adopted by the City Commission on July 18th and subsequently resent to the state for a final review. If not challenged, the amendments will become effective 31 days after amendment package is deemed complete.

Amendments to the LDRs—currently in drafting—will implement the Comprehensive Plan-modified FLU structure as well as changes to the zoning structure recommended by the CRA Plan. The LDR amendments

are anticipated to be adopted by September 19th.

The Planning and Development Board recommended denial of the subject request on July 25, 2017. The chief concern was perceived lack of adequate protection for historic properties..

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? The relocation/rehousing of city departments planned as part of the Town Square project has a potential to significantly enhance efficiency of the public service provision.

FISCAL IMPACT: The project will generate new ad valorem tax stream revenues from the previously tax exempt properties through the involvement of the private sector.

ALTERNATIVES: Staff does not recommend any alternatives.

STRATEGIC PLAN: Great Neighborhoods: Safe, Affordable and Livable

STRATEGIC PLAN APPLICATION: This action represents a critical task for achieving the "Town Square Redevelopment" strategic objective.

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Ordinance	Ordinance approving Town Square Land Use Amendment
🗋	Ordinance	Ordinance approving Rezoning of Town Square
🗋	Staff Report	Staff Report
🗋	Location Map	Location Map
🗋	Exhibit	Exhibit B1
🗋	Exhibit	Exhibit B2
🗋	Exhibit	Exhibit C1
🗋	Exhibit	Exhibit C2
🗋	Exhibit	Exhibit D

ORDINANCE NO. 17-

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING ORDINANCE 89-38 BY AMENDING THE FUTURE LAND USE ELEMENT OF THE COMPREHENSIVE PLAN FOR PROPERTY COMMONLY KNOWN AS TOWN SQUARE AND DESCRIBED HEREIN, OWNED BY THE CITY OF BOYNTON BEACH; CHANGING THE LAND USE DESIGNATION FROM PUBLIC AND PRIVATE GOVERNMENTAL/INSTITUTIONAL (PPGI) AND HIGH DENSITY RESIDENTIAL TO MIXED USE MEDIUM(MXM); PROVIDING FOR CONFLICTS, SEVERABILITY, AND AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Boynton Beach, Florida has adopted a Comprehensive Future Land Use Plan and as part of said Plan a Future Land Use Element pursuant to Ordinance No. 89-38 and in accordance with the Local Government Comprehensive Planning Act; and

WHEREAS, the procedure for amendment of a Future Land Use Element of a Comprehensive Plan as set forth in Chapter 163, Florida Statutes, has been followed; and

WHEREAS, after two (2) public hearings the City Commission acting in its dual capacity as Local Planning Agency and City Commission finds that the amendment hereinafter set forth is consistent with the City's adopted Comprehensive Plan and deems it in the best interest of the inhabitants of said City to amend the Future Land Use Element (designation) of the Comprehensive Plan as hereinafter provided.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1: The foregoing WHEREAS clauses are true and correct and incorporated herein by this reference.

Section 2: Ordinance No. 89-38 of the City is hereby amended to reflect the following:

That the Future Land Use of the following described land described in Exhibit "A" is amended from Public and Private Governmental/Institutional (PPGI) and High Density Residential (HDR) to: **MIXED USE MEDIUM (MXM).**

Section 3: This Ordinance shall take effect on adoption, subject to the review, challenge, or appeal provisions provided by the Florida Local Government Comprehensive Planning and Land Development Regulation Act. No party shall be vested of any right by virtue of the adoption of this Ordinance until all statutory required review is complete and all legal challenges, including appeals, are exhausted. In the event that the effective date is established by state law or special act, the provisions of state act shall control.

FIRST READING this _____ day of _____, 2017.

SECOND, FINAL READING and PASSAGE this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____

VOTE _____

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

ORDINANCE NO. 17-

AN ORDINANCE OF THE CITY OF BOYNTON BEACH, FLORIDA, AMENDING ORDINANCE 02-013 TO REZONE A PARCEL OF LAND DESCRIBED HEREIN AND COMMONLY REFERRED TO AS TOWN SQUARE FROM PUBLIC USAGE (PU); RECREATION (REC) AND MULTIFAMILY (R-3) TO MIXED USE 3 (MU-3); PROVIDING FOR CONFLICTS, SEVERABILITY, AND AN EFFECTIVE DATE.

WHEREAS, the City Commission of the City of Boynton Beach, Florida has adopted Ordinance No. 02-013, in which a Revised Zoning Map was adopted for said City; and

WHEREAS, the City of Boynton Beach, owner of the property has made application to rezone a parcel of land, said land being more particularly described hereinafter, from Public Usage (PU); Recreation (REC) and Multifamily (R-3) to Mixed Use 3 (MU-3); and

WHEREAS, the City Commission conducted public hearings as required by law and heard testimony and received evidence which the Commission finds supports a rezoning for the property hereinafter described; and

WHEREAS, the City Commission finds that the proposed rezoning is consistent with an amendment to the Land Use which was contemporaneously considered and approved at the public hearing heretofore referenced; and

WHEREAS, the City Commission deems it in the best interests of the inhabitants of said City to amend the aforesaid Revised Zoning Map as hereinafter set forth.

NOW, THEREFORE, BE IT ORDAINED BY THE CITY COMMISSION OF THE CITY OF BOYNTON BEACH, FLORIDA, THAT:

Section 1. The foregoing Whereas clauses are true and correct and incorporated herein by this reference.

Section 2. The land described in Exhibit "A" be and the same is hereby rezoned from PU Public Usage; REC Recreation and R-3 Multifamily to Mixed Use 3 (MU-3). A location map is attached hereto as Exhibit "B" and made a part of this Ordinance by reference.

Section 3. That the aforesaid Revised Zoning Map of the City shall be amended accordingly.

Section 4. All ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 5. Should any section or provision of this Ordinance or any portion thereof be declared by a court of competent jurisdiction to be invalid, such decision shall not affect the remainder of this Ordinance.

Section 6. This ordinance shall become effective immediately upon passage.

FIRST READING this _____ day of _____, 2017.

SECOND, FINAL READING and PASSAGE this _____ day of _____, 2017.

CITY OF BOYNTON BEACH, FLORIDA

	YES	NO
Mayor – Steven B. Grant	_____	_____
Vice Mayor – Justin Katz	_____	_____
Commissioner – Mack McCray	_____	_____
Commissioner – Christina L. Romelus	_____	_____
Commissioner – Joe Casello	_____	_____
VOTE	_____	

ATTEST:

_____
Judith A. Pyle, CMC
City Clerk

(Corporate Seal)

DEVELOPMENT DEPARTMENT
PLANNING AND ZONING DIVISION
MEMORANDUM NO. PZ 17-001

STAFF REPORT

TO:	Chair and Members Planning and Development Board
THRU:	Michael Rumpf Planning and Zoning Director
FROM:	Hanna Matras, Senior Planner
DATE:	July 10, 2017
PROJECT:	Town Square LUAR 17-005
REQUEST:	Approve Town Square Future Land Use Map Amendment from Public and Private Governmental/Institutional (PPGI) and High Density Residential (HDR) to Mixed Use Medium (MXM) and rezone from PU Public Usage, REC Recreation and R-3 Multifamily to MU-3 Mixed Use 3 zoning district. City-initiated.

PROJECT DESCRIPTION

Property Owner:	City of Boynton Beach (7 parcels) and owners of 14 Park Lane Condominium units
Applicant:	City of Boynton Beach
Location:	Area bounded by Seacrest Boulevard on the west, NE 1st Street on the east, Boynton Beach Boulevard on the north and SE 2nd Avenue on the south (**Exhibit "A")**
Existing Land Use/ Zoning:	Public and Private Governmental/Institutional (PPGI) and High Density Residential (HDR) / PU Public Usage; REC Recreation and R-3 Multifamily (no residential allowed in PPGI and REC; maximum density of 11 du/acre in R-3); see **Exhibit "B1"** and **Exhibit "B2"**
Proposed Land Use/ Zoning:	Mixed Use Medium (MXM) / MU-3 Mixed Use 3 zoning district

(maximum density 50 du/acre plus 25% density bonus for Downtown TOD District); see **Exhibit "C1"** and **Exhibit "C2"**

Acreage: +/- 16.5 acres

Adjacent Uses:

North: Right-of-way for Boynton Beach Boulevard and farther north, developed commercial properties classified Local Retail Commercial (LRC) and zoned C-3 (Community Commercial District);

South: Right-of-way for SE 2nd Avenue, and farther south, 10 developed single-family homes and 1 vacant parcel, classified Low Density Residential (LDR) and Medium Density Residential (MEDR) and zoned R-1-A, (Single-Family Residential District) and R-2, (Single- and Two-Family Residential District);

East: Right-of-way for NE/SE 1st Street; on the Northeast side, a developed commercial property clasified Local Retail Commercial (LRC) and zoned C-3 (Community Commercial); further south, a parking lot and Green Acres condominium, both classified High Density Residential (HDR) and zoned R-3, Multi-Family; further south, a vacant parcel and Ocean East Apartments, both classified Local Retail Commercial (LRC) and zoned R-3, Multi-Family; the Vivienne condominium on the south side has the same zoning but is classified High Density Residential (HDR); in the southeastern section, two developed single-family homes and a duplex classified Low Density Residential (LDR) and zoned R-1-A, (Single-Family Residential District).

West: Right-of-way for Seacrest Boulevard; on the Northwest side, the USPS facility and an office building, both classified Local Retail Commercial (LRC) and zoned C-2 (Neighborhood Commercial District); farther south, First United Methodist Church, classified High Density Residential (HDR) and zoned R-3, Multi-Family (on the part of properties fronting Seacrest Boulevard); south of W. Ocean Avenue, developed single-family homes and small residential rental properties, classified High Density Residential (HDR) and zoned R-3, Multi-Family.

BACKGROUND

The Site

The subject area covers four blocks, bounded by Seacrest Boulevard on the west, NE 1st Street on the east, Boynton Beach Boulevard on the north and SE 2nd Avenue on the south. It includes seven (7) parcels owned by the City of Boynton Beach, for a total of 15.05 acres, the right-of-way for NE 1st Avenue of 0.7 acre, part of the right-of-way for SE 1st Avenue of approximately 0.09 acres (currently with no future land use classification or zoning designation) and a 14-unit Park Lane condominium site on approximately 0.63 acres. The City-owned parcels contain the civic campus with the following structures:

- 1913 Schoolhouse Museum, including amphitheatre
- Art Center
- City Hall Complex, including parking garage
- Civic Center
- Old High School
- Kid's Kingdom Playground
- Library
- Madsen Senior Center (presently housing Code Compliance), including shuffleboard courts

As a redevelopment site, the property has several pertinent locational characteristcs:

- It is situated within the Community Redevelopment Area, giving a potential development access to a number of incentives, and allowing the Community Redevelopment Agency to become a partner in the incoming project (see "**The Proposed Action**" section below);

- It is enclosed within the Downtown Transit-Oriented Development (DTOD) district, which covers a ½ mile radius around the intersection of Boynton Beach Boulevard and NE 4th Street, the site of the future station for the planned Tri-Rail Coastal Link commuter train system on the FEC Rail, which will provide passenger service between Miami and West Plam Beach. The DTOD district regulations support increased intensity of development through a 25% density bonus.

- It is also enclosed within both the Coastal Residential Exception area, which exempts all residential development east of I-95 from the Palm Beach County traffic concurrency, and the Transportation Concurrency Exception Area (TCEA), which, while setting limits on the amount of development that will be allowed, carries additional traffic concurrency exemption for commercial and other non-residential development.

- The site is split between two CRA districts, the Cultural District and the Boynton Beach Boulvard District, which—together with four others—have been identified and designated as distinctive planning areas by the CRA Community Redevelopment Plan adopted in October of 2016. (See Exhibit "D")

The addition of the Park Lane Condominium site squares the project's boundary. The site lays within the Cultural district and is a subject to the same future land use CRA Plan's recommendation as the Town Square.

The Proposed Action

This action—the future land use amendment and rezoning—has been initiated by City staff in preparation for the redevelopment of the civic campus, now referred to as Town Square, into a mix use project. The project is proposed as a partnership between the City, the CRA and the private development team, based on the Public-Private Partnership (P3) development model pursuant to Chapter 255.065, Florida Statutes. P3s are agreements formed between public and private entities that allow for greater private-sector participation in the financing and delivery of public building and infrastructure projects. (In February of 2015, the City adopted Resolution 15-020, which established procedures for processing of P3s.)

Even though a conceptual Town Square Master Plan has been made public, at present there is no Master Plan application for the project accompanying the subject zoning request as would be required by the Land Development Regulations (LDRs) for a privately-initiated application involving a planned zoning district. Since 2015, the City has been able to proactively initiate and process future land use reclassification and rezoning to selected sites—if recommended by a significant planning document(s)—without a concurrent review of a master plan. Such "proactive" actions assures that these properties will have the recommended future land use classification and a corresponding zoning designation "on the ground," ready for incoming projects.

The City makes use of this provision for sites for which there already is a specific vision, supported by a redevelopment or other plan of major importance. The subject request meets this criterion, as the Town Square project is supported both by the 2016 CRA Community Redevelopment Plan and the City's Strategic Plan.

Previous FLU Amendment/Rezoning Applications for the Site

In 2013, the City processed a FLU amendment and rezoning for a small part of the subject site (about 2 acres) occupied by the Old High School, as part of a development agreement in a public/private partnership with an applicant planning the renovation and adaptive reuse of the building. Of the two requests, for a mixed use future land use and zoning, only the first one was approved by the City Commission. The project was subsequently abandoned and the City took the action to revert the site to its previous (and current) PPGI future land use classification.

Prerequisites for Approval: the Process

The regulatory framework for the requested FLU classification of Mixed Use Medium (MXM) and the zoning designation of MU-3 Mixed Use 3 has not as yet been completed. The framework requires text amendments to both the Comprehensive Plan Future Land Use Element and the Land Development Regulations (LDRs). The status of this process is as follows:

- The Comprehensive Plan amendments were adopted by the City Commission on July 18th and subsequently resent to the state for a final review. If not challenged, the amendments will become effective 31 days after amendment package is deemed complete (anticipated by September 1st).
- Amendments to the LDRs—currently in drafting—will implement the Comprehensive Plan-modified FLU structure as well as changes to the zoning structure recommended by the CRA Plan. The LDR amendments are anticipated to be adopted by September 19th.

Since the size of the property under consideration for the Town Square project exceeds ten acres, the proposed FLU amendments are subject to the Expedited State Review Process per provisions of Chapter 163.3184(3) and (5), Florida Statutes. The Expedited State Review Process applies to all comprehensive plan amendments except for small scale amendments and amendments that must follow the State Coordinated Review Process, such as the Evaluation and Appraisal Review (EAR)-based amendments to the Coastal Management Element adopted by the City in 2016.

If the Commission approves the proposed amendments, they will be transmitted for review to the Florida Department of Economic Opportunity (DEO), the state land planning agency. The final adoption by the City Commission is tentatively scheduled for October 17th, by which date the required regulatory framework will be updated.

REVIEW BASED ON CRITERIA

The following analysis adresses all the criteria for review of Comprehensive Plan Map amendments and rezonings listed in the Land Development Regulations, Chapter 2, Article II, Section 2.B.3 and Section 2.D.3. (although City-initiated requests must meet at a minimum criterion “b”):

a. Demonstration of Need. *A demonstration of need may be based upon changing conditions that represent a demand for the proposed land use classification and zoning district. Appropriate data and analysis that adequately substantiates the need for the proposed land use amendment and rezoning must be provided within the application.*

A need for redevelopment of the Boynton Beach civic campus has been recognized for over 20 years. The campus occupies a large track of land close to downtown, and has a

significant potential to contribute to the quality of the downtown experience through the creation of an attractive, functionally unified built environment. In its current condition, it represents an inefficient use of the valuable land in the City's center, with several disconnected sections, a few obsolete/outdated structures and a historic Old High School building in a state of severe disrepair.

It has also been recognized early on that redevelopment of the Town Square and, specifically, the adaptive reuse of the High School, will likely require an involvement of the private sector. In 2015, the City decided on the use of the P3 process in transforming Town Square into a mixed use project with civic as well as residential and commercial uses, and included the project as a high priority item in its Strategic Plan.

The project requires a mixed use future land use classification to allow for addition of residential and commercial uses not permitted under the current Public and Private Governmental/Institutional category. The choice of the Mixed Use Medium (MXM) category with a density cap of 50 du/acre (with an additional Downtown TOD District's 25% density bonus) fulfills the recommendation of the CRA Community Redevelopment Plan warranted by the project's proximity to the core of the downtown and to the future station of the planned Coastal Link commuter train service. The MXM category is in-between the proposed new Mixed Use Low, with the density cap of 20 du/acre arguably too low for the location, and the Mixed Use High (renamed Mixed Use Core), whose 80 du/acre density cap is reserved for the core of the downtown.

b. <u>Consistency</u>. *Whether the proposed Future Land Use Map amendment (FLUM) and rezoning would be consistent with the purpose and intent of, and promote, the applicable Comprehensive Plan policies, Redevelopment Plans, and Land Development Regulations.*

<u>Consistency with Comprehensive Plan and Redevelopment Plan</u>

The future land use classification of MXM proposed for the site is consistent with, and implements, the CRA Community Redevelopment Plan's recommendations for the Cultural and Boynton Beach Boulevard districts in the subject location (the site is split between the two districts).

The proposed FLU amendment and rezoning is also explicitely consistent with a number of the policies of the Comprehensive Plan pertaining to mixed use development, most importantly (current) policies 1.18.1 and 1.18.2 of the Future Land Use element:

Policy 1.18.1 *The City shall implement the Transit-Oriented Development (TOD) approach, as described in the 2012 Florida Department of Transportation's TOD Guidebook, to manage future growth within a ½ mile radius around the intersection of Ocean Avenue and the Florida East Coast rail corridor, which is the anticipated location of the Downtown Boynton Beach Station for the planned commuter*

Tri-Rail Coastal Link service on the FEC Corridor. This area will be referred as the Downtown TOD District hereforth. The inner ¼-mile core of this District shall be designed to accommodate the greatest density and intensity of development.

Policy 1.18.2 The City shall aim to transform the Downtown TOD District area into an active, mixed-use, pedestrian-friendly activity zone, supporting new housing to increase potential ridership, intensifying land development activity, and adding amenities and destination uses for future transit riders. The City shall strive to achieve this goal through facilitating compact, high density and intensity development of a varied mix of land uses.

Note that not only is the subject property located within the DTOD District, but most of its area falls within the transit core (the District's 1/4–mile radius), therefore justifying the requested MXM future land use classification which would allow a maximum density of 63 du/acre (with the District's 25% density bonus).

Consistency with Land Development Regulations (LDR)

See "***Prerequisits for Approval: the Process"*** section on page 4 of this report. The Land Development regulations implementing the new future land use/zoning structure will be adopted prior to the adoption of the proposed amendment, anticipated in October.

c. Land Use Pattern. *Whether the proposed Future Land Use Map amendment (FLUM) and rezoning would be contrary to the established land use pattern, or would create an isolated zoning district or an isolated land use classification unrelated to adjacent and nearby classifications, or would constitute a grant of special privilege to an individual property owner as contrasted with the protection of the public welfare. This factor is not intended to exclude FLUM reclassifications and rezonings that would result in more desirable and sustainable growth for the community.*

It is indeed the staff's opinion that the proposed FLUM reclassification and rezoning would result in more desirable and sustainable growth for the community and improve the general public welfare. While both actions will temporarily create "isolated" districts, the requested FLU category (as already stated) is consistent with the recommendation of the CRA Plan, which also recommends the MXM category for areas west (between Boynton Beach Boulevard and 1st NW Avenue only), north, and east of Town Square (see Exhibit D). Going forward, these recommendations aim to achieve a major transformation of the subject area, implementing the City's and the CRA's vision for it.

d. Sustainability. *Whether the proposed Future Land Use Map amendment (FLUM) and rezoning would support the integration of a mix of land uses consistent with the*

Smart Growth or sustainability initiatives, with an emphasis on 1) complementary land uses; 2) access to alternative modes of transportation; and 3) interconnectivity within the project and between adjacent properties.

The proposed FLUM amendment and rezoning clearly meets the definition of "sustainable" as it supports a mixed use, high density redevelopment of the site. Residents and visitors will have access to public transit via Palm Tran bus service on Seacrest and Boynton Beach boulevards (with bus stops located in front of the proposed project), as well as, in the future, to the planned Coastal Link commuter train service.

e. Availability of Public Services / Infrastructure. *All requests for Future Land Use Map amendments shall be reviewed for long-term capacity availability at the maximum intensity permitted under the requested land use classification.*

Water and Sewer. Long-term capacity availability for potable water and sewer for the subject request has been confirmed by the Utilities Department.

Solid Waste. The Palm Beach County Solid Waste Authority determined that sufficient disposal capacity will be available at the existing landfill through approximately the year 2046.

Drainage. Drainage will be reviewed in detail as part of the site plan, land development, and building permit review processes.

Traffic. The property is under the Coastal Residential exception and TCEA designations and is therefore exempted from the concurrency requirements of the Palm Beach County Traffic Performance Standards Ordinance. (The required Traffic Statement will be submitted with a site plan/master plan package.) The monitoring of the maximum allowable residential uses and square footage of commercial, industrial and other non-residential uses as well as applicable use ratios under the TCEA Planned 2025 Land Use Table indicate that the current (cumulative) numbers remain significantly off the allowable thresholds.

Schools. The School Capacity Availability Determination application will be submitted with a site plan/master plan package.

f. Compatibility. *The application shall consider the following factors to determine compatibility:*

(1) Whether the proposed Future Land Use Map amendment (FLUM) and rezoning would be compatible with the current and future use of adjacent and nearby properties, or would negatively affect the property values of adjacent and nearby properties; and

(2) Whether the proposed Future Land Use Map amendment (FLUM) and rezoning is of a scale which is reasonably related to the needs of the neighborhood and the City as a whole.

The adjacent and nearby properties include both residential and commercial uses, albeit low rise, while the maximum height of the proposed zoning is 75 feet. However, as indicated in response to criterion "c," future uses in the areas northwest, north and east of the subject property are planned to be compatible in general character and scale to the Town Square project as per recommendations of the CRA Plan. Possible incompatiblity with single-family homes along SE 2nd Avenue will be addressed at the site plan review phase through the project's design.

The redevelopment of the subject site is expected to spur more redevelopment activities in the surrounding area, and positively affect the property values. The potential positive impacts will be magnified by the eventual availability of the Coastal Link train commuter service.

As was already stated in this report, the need for redevelopment of the Boynton's civic campus has long been recognized as vital for both the area and the city as a whole, and now has a strong support in the CRA Community Redevelopment Plan, the City's Strategic Plan and the Economic Development (ED) Strategic Plan. The requested actions lay the groundwork for the realization of the City's vision for the Town Square.

g. Direct Economic Development Benefits. *For rezoning/ FLUM amendments involving rezoning to a planned zoning district, the review shall consider the economic benefits of the proposed amendment, specifically, whether the proposal would:*

(1) Further implementation of the Economic Development (ED) Program;
(2) Contribute to the enhancement and diversification of the City's tax base;
(3) Respond to the current market demand or community needs or provide services or retail choices not locally available;
(4) Create new employment opportunities for the residents, with pay at or above the county average hourly wage;
(5) Represent innovative methods/technologies, especially those promoting sustainability;
(6) Be complementary to existing uses, thus fostering synergy effects; and
(7) Alleviate blight/economic obsolescence of the subject area.

As mentioned above (criterion "f"), the Town Square project is supported by the City 2016-2021 ED Strategic Plan—which has now supplanted the Economic Development Program—and therefore the requested actions meet criterion g(1). Specifically, the project is listed under the ED Strategic Plan's ACTION PLAN FOR CHANGE, Goal 4, Objective 4.1: Promote Economic Development /Redevelopment in the Eastern Section of the City; Strategy 4.1.4.: *Work with the CRA to develop a Town Square in the downtown to include City Hall, Library, Children's School House Museum, Old High*

School, Civic Center, Arts Center, and Madsen Center. The proposed FLUM amendment/rezoning supports a project that would constitute a major catalyst for creating a successful, lively downtown, bringing more development to the area and attracting more residents and visitors to the City. The project would or at least has a potential to:

- Generate new ad valorem tax stream revenues from the previously tax exempt properties through the involvement of the private sector (criterion g2);

- Respond to the community needs by enhancing efficiency of the public service provision (criterion g3);

- Create jobs, though most will likely be low wage retail positions; and

- Alleviate economic/functional obsolescence in the subject area, including underutilization of land on the subject property (criterion g7).

In addition, the requested actions and the project they will support include restoration/preservation and adaptive reuse of the Old High School.

h. Commercial and Industrial Land Supply. *The review shall consider whether the proposed rezoning/FLUM amendment would reduce the amount of land available for commercial/industrial development. If such determination is made, the approval can be recommended under the following conditions:*

(1) The size, shape, and/or location of the property makes it unsuitable for commercial/industrial development; or

(2) The proposed rezoning/FLUM amendment provides substantiated evidence of satisfying at least four of the Direct Economic Development Benefits listed in subparagraph "g" above; and

(3) The proposed rezoning/FLUM amendment would result in comparable or higher employment numbers, building size and valuation than the potential of existing land use designation and/or rezoning.

The proposed FLUM amendment and rezoning would add a commercial component to the civic campus: the current land use and zoning do not allow commercial uses.

i. Alternative Sites. *Whether there are adequate sites elsewhere in the City for the proposed use in zoning districts where such use is already allowed.*

N/A (See responses above to criteria "a," "b," and "c.")

j. Master Plan and Site Plan Compliance with Land Development Regulations. *When master plan and site plan review are required pursuant to Section 2.D.1.e above, both shall comply with the requirements of the respective zoning district regulations of Chapter 3, Article III and the site development standards of Chapter 4.*

The City-initiated rezonings can proceed in advance of the master plan submittal. When submitted, the master plan will comply with Land Development Regulations (see the "**Prerequisites for Approval: the Process"** section of this report).

CONCLUSION/RECOMMENDATION

As indicated herein, staff has reviewed the proposed requests and determined that they are consistent with the policies of the Comprehensive Plan and implement the recommendations of the CRA Community Redevelopment Plan, the City's Strategic Plan and the Economic Development Strategic Plan. It is anticipated that the Comprehensive Plan and LDR amendments required for the approval of the proposed FLU Map amendment and rezoning will be finalized prior to its expected adoption date.

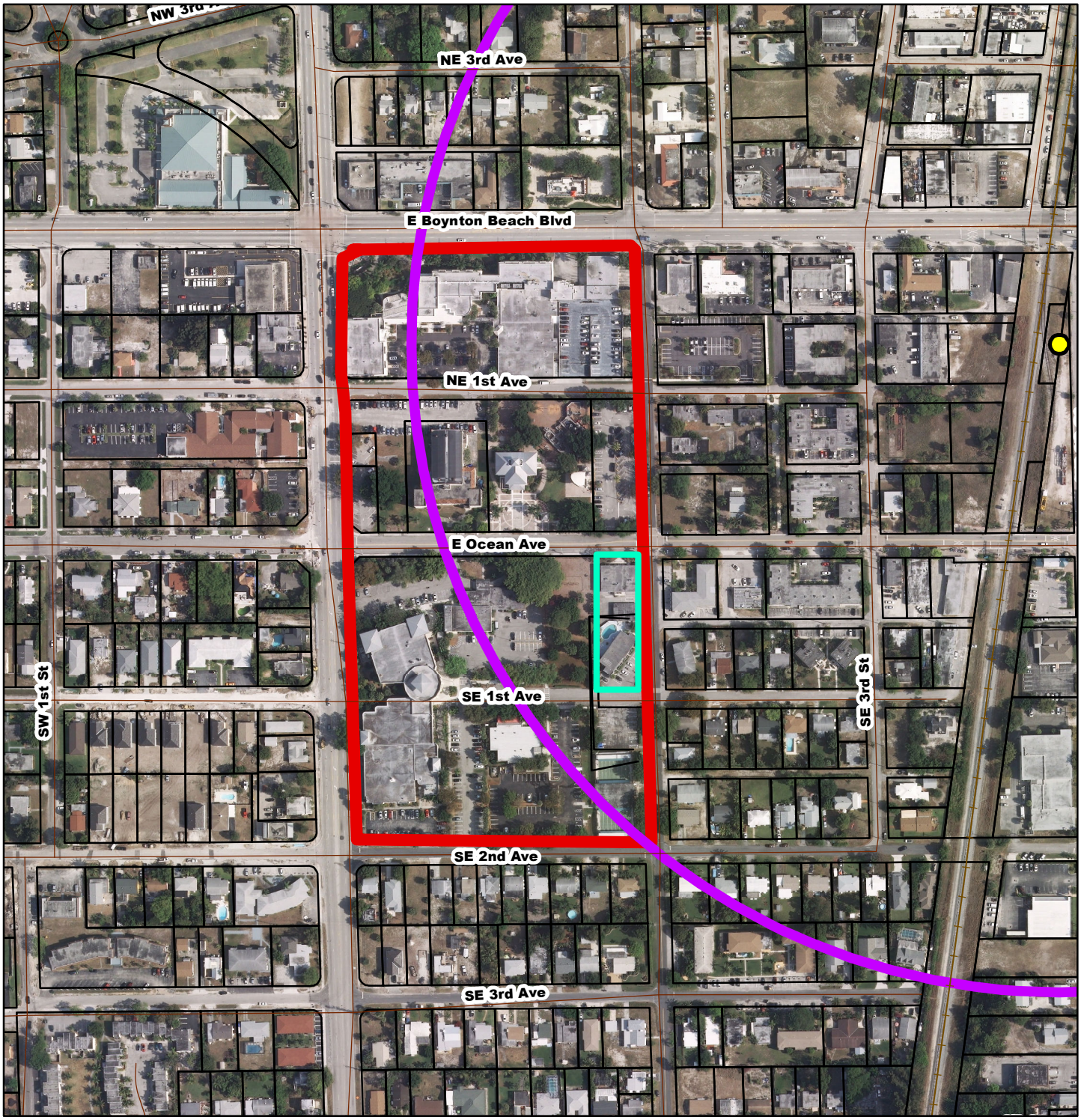
Staff recommends approval of the proposed Future Land Use Map amendments for the transmittal to the State for an Expedited State Review.

ATTACHMENTS

S:\Planning\SHARED\WP\PROJECTS\Town Square LUAR 17-005\Town Square LUAR 17-005 Staff Report.doc

CITY OF BOYNTON BEACH
TOWN SQUARE LOCATION MAP

EXHIBIT A



Legend

- Town Square
- Future Coastal Link station
- Transit Core Area
- Park Lane Condominium

Total Town Square area: 16.5 acres

N
W E
S

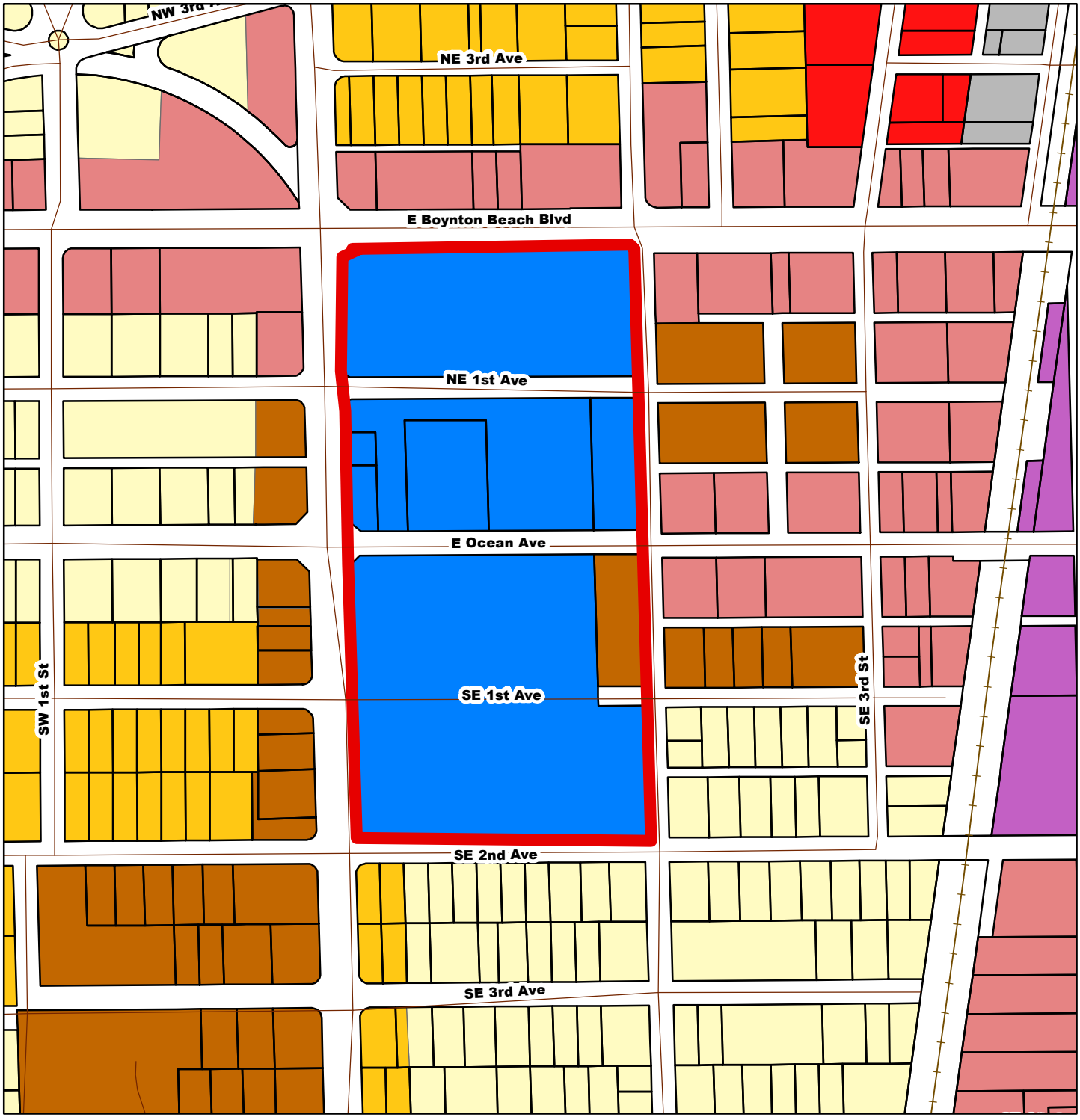
0 0.0125 0.025 0.05 0.075 0.1
Miles

Source: Palm Beach County GIS Digital Data 2006-2015
Copyright Palm Beach County Florida 2006-2015
All rights reserved - Subject to a Licence Agreement

CITY OF BOYNTON BEACH

EXHIBIT B1

CURRENT FLU CLASSIFICATIONS FOR TOWN SQUARE AND ADJACENT AREAS



Legend

Future Land Use Classifications

- LOW DENSITY RESIDENTIAL (LDR) Max. 5 D.U./Acre
- MEDIUM DENSITY RESIDENTIAL (MEDR) Max. 10 D.U./Acre
- HIGH DENSITY RESIDENTIAL (HDR) Max. 11 D.U./Acre
- LOCAL RETAIL COMMERCIAL (LRC)
- GENERAL COMMERCIAL (GC)
- INDUSTRIAL (I)
- PUBLIC & PRIVATE GOVERNMENTAL/INSTITUTIONAL (PPGI)

Town Square

Last amended October 20, 2015

N W E S

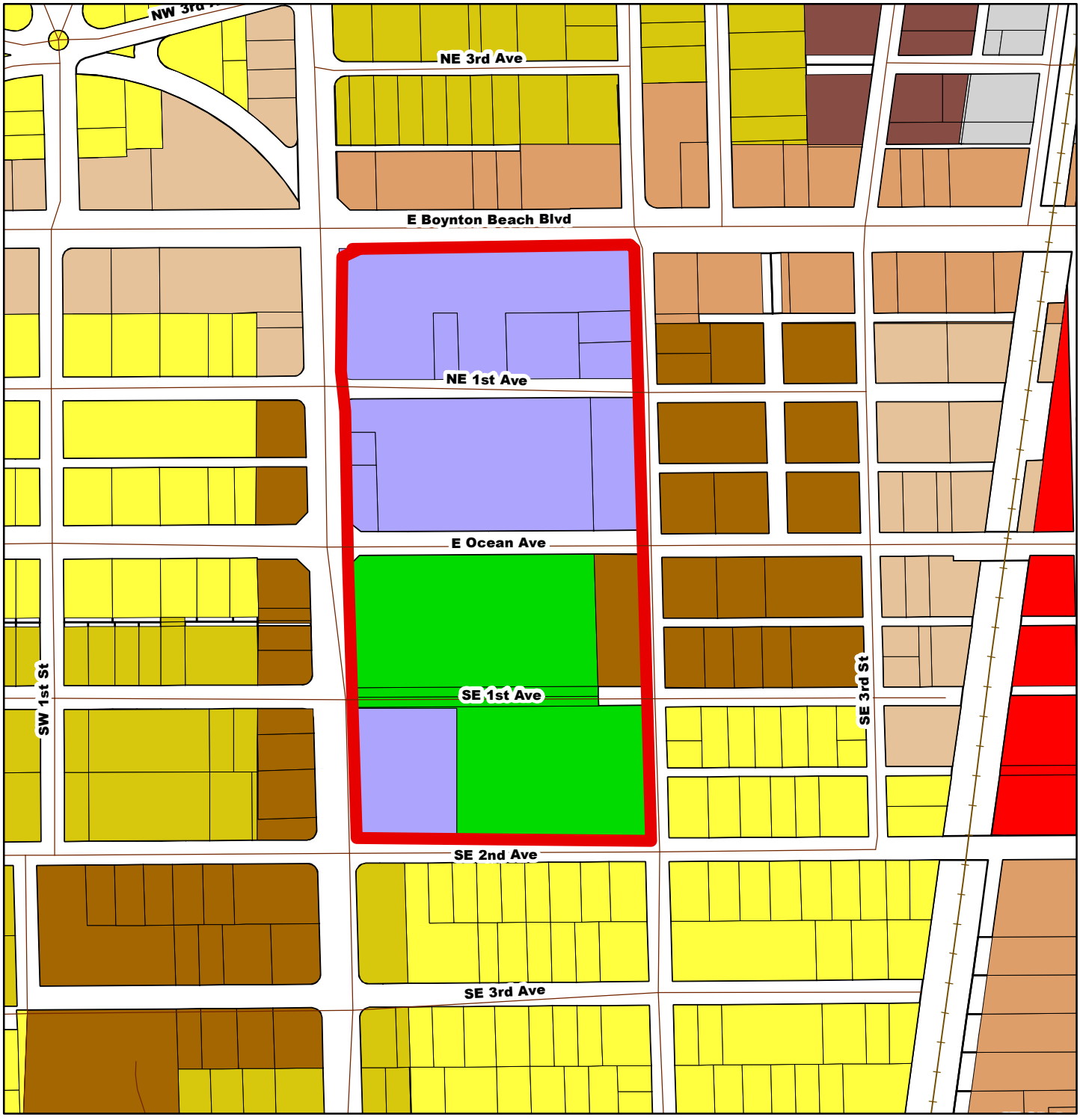
0 0.0125 0.025 0.05 0.075 0.1 Miles

Source: Palm Beach County GIS Digital Data 2006-2015
Copyright Palm Beach County Florida 2006-2015
All rights reserved - Subject to a Licence Agreement

CITY OF BOYNTON BEACH

EXHIBIT B2

CURRENT ZONING DESIGNATIONS FOR TOWN SQUARE AND ADJACENT AREAS



Legend

Zoning designations

- R1A Single Family
- R2 Duplex
- R3 Multi Family
- C2 Neighborhood Commercial
- C3 Community Commercial
- C4 General Commercial
- CBD Central Business District
- M1 Light Industrial
- PU Public Usage
- REC Recreation
- Town Square

N W E S

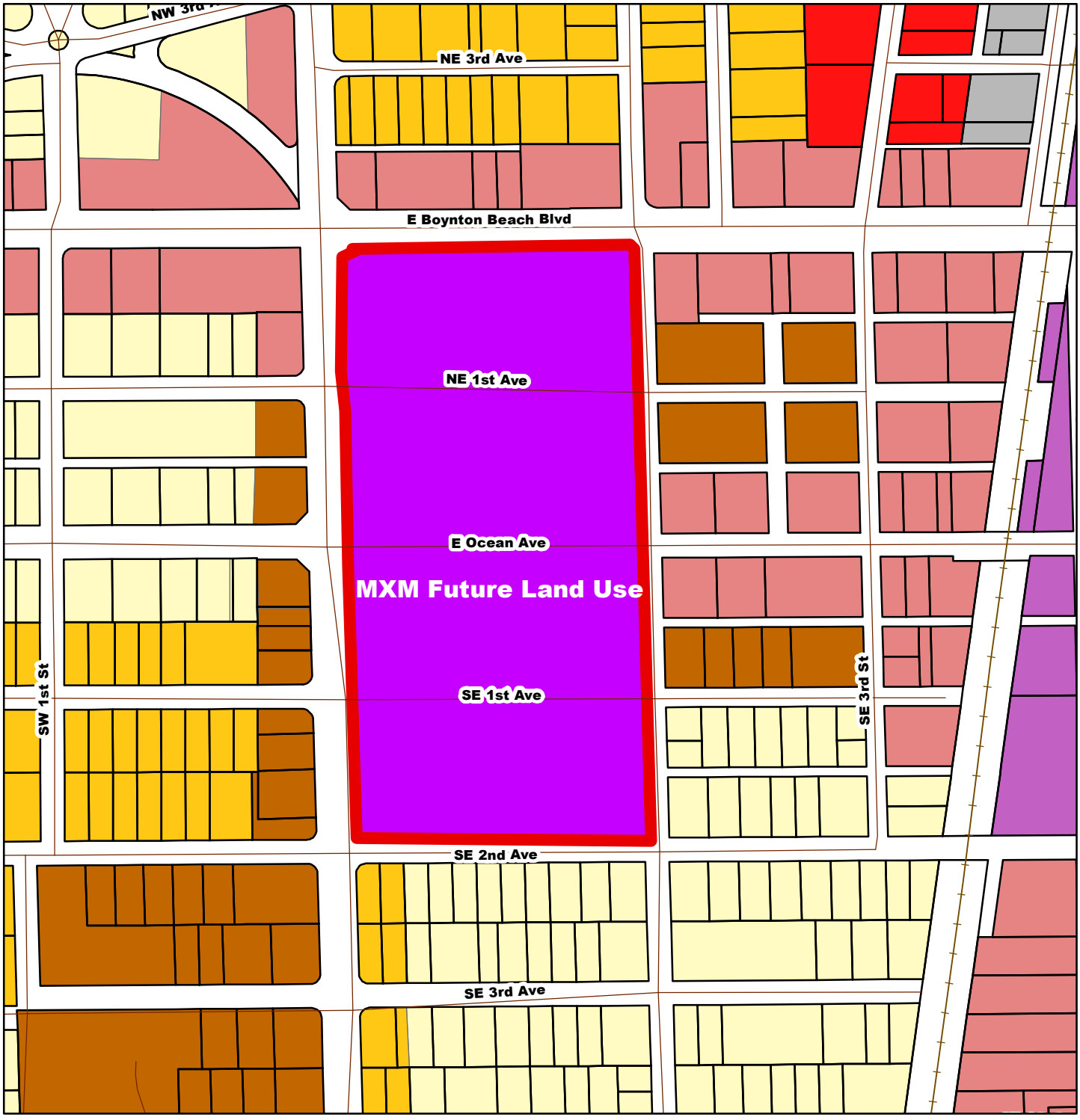
0 0.0125 0.025 0.05 0.075 0.1 Miles

Source: Palm Beach County GIS Digital Data 2006-2015
Copyright Palm Beach County Florida 2006-2015
All rights reserved - Subject to a Licence Agreement

CITY OF BOYNTON BEACH

EXHIBIT C1

PROPOSED FLU CLASSIFICATION FOR TOWN SQUARE*



Legend

- LOW DENSITY RESIDENTIAL (LDR) Max. 5 D.U./Acre
- MEDIUM DENSITY RESIDENTIAL (MEDR) Max. 10 D.U./Acre
- HIGH DENSITY RESIDENTIAL (HDR) Max. 11 D.U./Acre
- LOCAL RETAIL COMMERCIAL (LRC)
- GENERAL COMMERCIAL (GC)
- INDUSTRIAL (I)
- Mixed Use (MX), Max. Density 40 du/acre
- MIXED USE Medium (MXM), Max. Density 50 D.U./Acre
- Town Square

* NOTE: Areas adjacent to Town Square shown with the current FLU classifications

N W E S

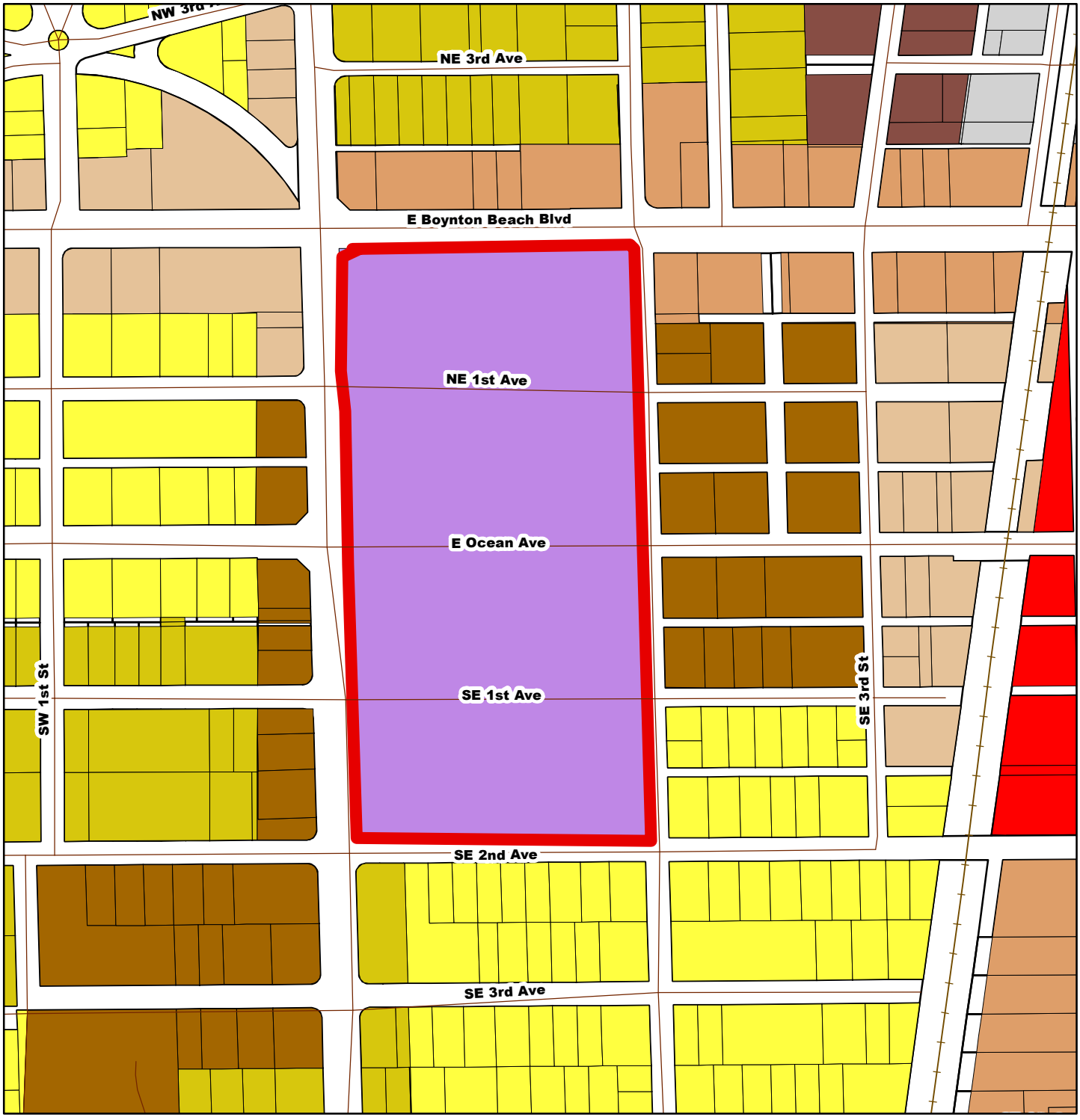
0 0.0125 0.025 0.05 0.075 0.1 Miles

Source: Palm Beach County GIS Digital Data 2006-2015
Copyright Palm Beach County Florida 2006-2015
All rights reserved - Subject to a Licence Agreement

CITY OF BOYNTON BEACH

EXHIBIT C2

PROPOSED ZONING DESIGNATION FOR TOWN SQUARE



Legend

Zoning designations

- R1A Single Family
- R2 Duplex
- R3 Multi Family
- C2 Neighborhood Commercial
- C3 Community Commercial
- C4 General Commercial
- CBD Central Business District
- M1 Light Industrial
- MU-3 Mixed Use 3
- Town Square

N W E S

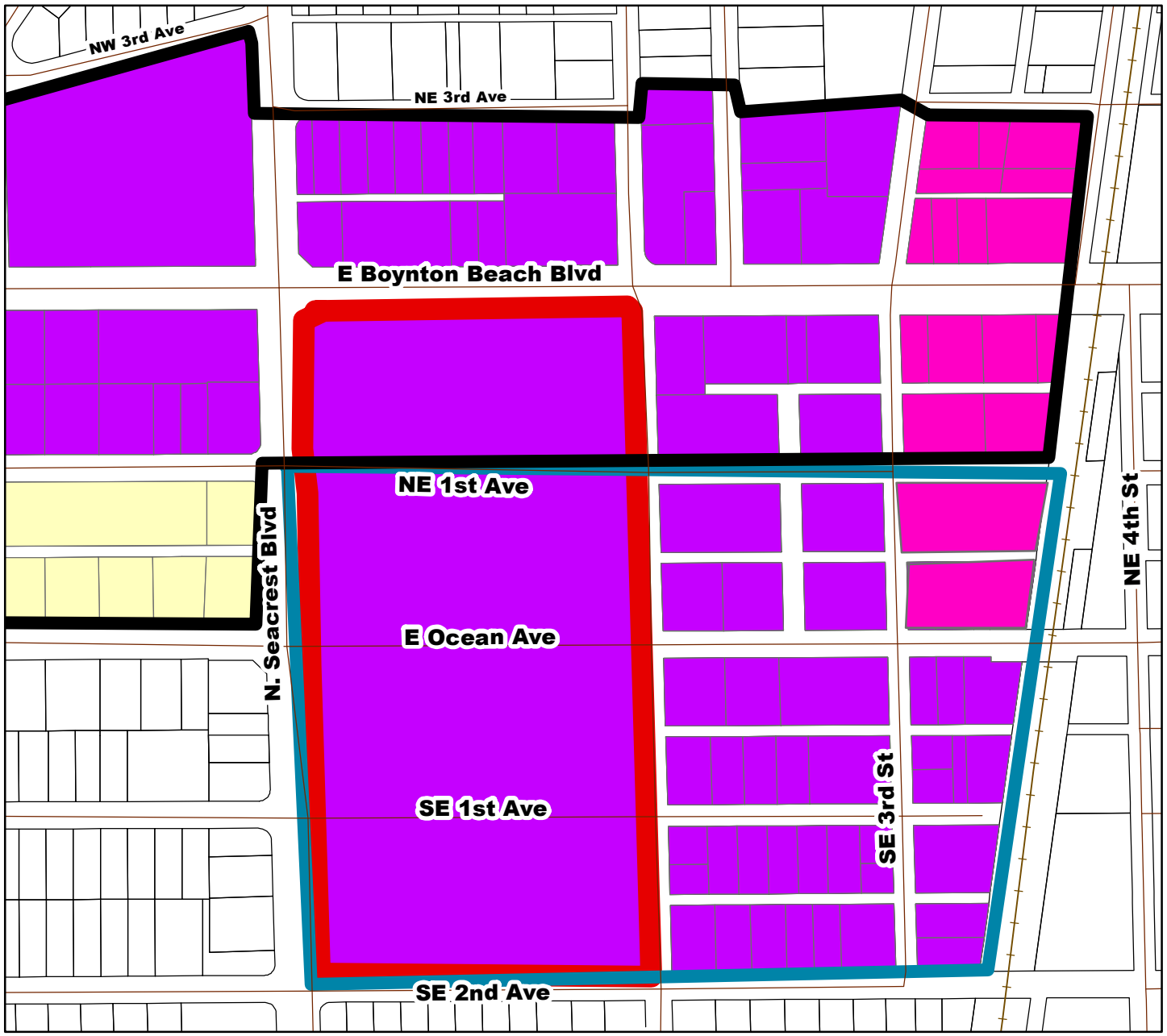
0 0.0125 0.025 0.05 0.075 0.1 Miles

Source: Palm Beach County GIS Digital Data 2006-2015
Copyright Palm Beach County Florida 2006-2015
All rights reserved - Subject to a Licence Agreement

CITY OF BOYNTON BEACH: TOWN SQUARE

EXHIBIT D

CRA COMMUNITY REDEVELOPMENT PLAN'S FLU RECOMMENDATIONS FOR CULTURAL AND AND BOYNTON BEACH BOULEVARD DISTRICTS



LEGEND

- Town Square
- Cultural District
- Boynton Beach Blvd District

N
W E
S

0 0.0125 0.025 0.05 0.075 0.1 Miles

- Mixed Use High (MXH), Max. Density 80 D.U./Acre
- Mixed Use Medium (MXM), Max. Density 50 D.U./Acre
- Low Density Residential , Max. Density 7.5 D.U./Acre

Source: Palm Beach County GIS Digital Data 2006-2015
Copyright Palm Beach County Florida 2006-2015
All rights reserved - Subject to a Licence Agreement

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
Staff to bring information concerning the following land parcels for the Commission to review - **TBD**

Nichols Property
Leisureville Property
Rolling Green
Scrub Parcel by Galaxy School
Girl Scout Park

EXPLANATION OF REQUEST:

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES?

FISCAL IMPACT:

ALTERNATIVES:

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION: No

CLIMATE ACTION DISCUSSION:

Is this a grant? No

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Approve Exeter / Sterling Records Phase III Major Site Plan Modification (MSPM 17-008) to construct a one-story, 56,160 square foot warehouse building and related site improvements, located at 1210 SW 35th Avenue in the M-1 (Industrial) zoning district. Applicant: Allan Hendricks, Caulfield & Wheeler, Inc.

EXPLANATION OF REQUEST:
The subject site is a vacant parcel located approximately 650 feet east of Congress Avenue, and north of Phases I & II of the Sterling Records complex on SW 35th Avenue. The property is owned by the same company (Exeter) that owns Phases I & II of the warehouse complex directly south of the parcel, and access has been provided to Phase III through a recorded ingress/egress easement from SW 35th Avenue. The parcel was formerly a portion of the Yellow Freight site to the north, and through a lot split and sale, was purchased by Exeter Property Group to add another warehouse building to their complex. This request is to add a third warehouse building, a one-story, 56,160 square foot structure designed for two large tenants.

Staff has reviewed this request for major site plan modification approval and recommends approval contingent upon satisfying all comments indicated in Exhibit “C” – Conditions of Approval.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? N/A

FISCAL IMPACT: Collection of fees associated with building permits, business tax, and property tax.

ALTERNATIVES: None recommended.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION: N/A

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION: N/A

Is this a grant?

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION:
Approve Aldi Grocery Land Use and Rezoning (LUAR 17-006) to support the intended 17,880 square foot grocery store building and related site improvements at 3452 W. Boynton Beach Boulevard. Applicant Bonnie Miskel, Dunay, Miskel & Backman, LLP.

1. Future Land Use Map Amendment from Office Commercial (OC) to Local Retail Commercial (LRC).

2. Rezone from C-1 (Office and Professional) to C-3 (Community Commercial).

EXPLANATION OF REQUEST:
The 2.04-acre parcel is currently developed with a one-story, 30-year old rundown office building. The applicant, representing a global discount supermarket chain Aldi, Inc., proposes to redevelop the property with a 18,848 square foot store. In addition to the FLUM amendment and rezoning, the requests under concurrent consideration include site plan approval and a variance for the rear setback.

The approval of the subject requests would bring the first Aldi store to the city. In recent years, the company opened stores in Delray Beach, Boca Raton and West Palm Beach.

The proposed FLUM amendment and rezoning would not support uses contrary to the development patterns in adjacent and nearby areas, which already incorporate retail establishments of various scales from small to major—including the 100,000 square foot BJs Shopping Center—as well as other commercial uses and single-family homes. The proposed FLU category and zoning district are more consistent with the land use and zoning patterns than the existing ones: except the subject property and one directly south of it, all commercially developed parcels in the area along W. Boynton Boulevard carry the Local Retail Commercial category. Also, except for three PCDs (Planned Commercial Developments), the C-3 zoning district prevails. Note that the development intensity of LRC future land use and C-3 zoning aligns with the high traffic volumes carried by urban principal arterials such as Boynton Beach Boulevard.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? The requests, if approved, would not require capacity adjustment to the City services.

FISCAL IMPACT: The requests, if approved, would allow for a sizable retail use and therefore an increase in the City's tax base in addition to building permit and related revenues.

ALTERNATIVES: Staff does not recommend any alternatives.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION: N/A

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION: N/A

Is this a grant?

Grant Amount:

ATTACHMENTS:

	Type	Description
🗋	Staff Report	Staff Report
🗋	Location Map	EXHIBIT A. Location Map - aerial
🗋	Exhibit	Exhibit B. ALDI proposed FLU
🗋	Exhibit	Exhibit C. ALDI proposed Zoning

DEVELOPMENT DEPARTMENT
PLANNING AND ZONING DIVISION
MEMORANDUM NO. PZ 17-050
STAFF REPORT

TO:	Chair and Members Planning and Development Board
THRU:	Michael Rumpf Planning and Zoning Director
FROM:	Hanna Matras, Senior Planner
DATE:	September 5, 2017
PROJECT:	ALDI Grocery Store LUAR 17-006
REQUEST:	Approve the ALDI grocery store Future Land Use Map Amendment from Office Commercial (OC) to Local Retail Commercial (LRC) and rezoning from C-1 Office Professional to C-3, Community Commercial.

PROJECT DESCRIPTION

Applicant/Property Owner:	Jordan Ford of ALDI Inc./ MG3 3452 West Boynton LLC
Agent:	Bonnie Miscal, Esq./Dunay, Miskel and Backman, LLP
Location:	3452 W. Boynton Beach Boulevard (Exhibit “A”)
Existing Land Use/ Zoning:	Office Commercial (OC)/ C-1 Office Professional
Proposed Land Use/ Zoning:	Local Retail Commercial (LRC)/ C-3 Community Commercial
Acreage:	2.04 acres

Adjacent Uses:

North: Right-of-way for W. Boynton Beach Boulevard, and farther north developed commercial properties, classified Local Retail Commercial (LRC) future land use and zoned C-3 Community Commercial;

South: Developed two-story office building, classified Office Commercial (OC) and zoned C-1, Office Professional;

East: Developed single-family community (Stonehaven), classified Low Density Residential and zoned PUD; and

West: Right-of-way for Knuth Road; farther west, developed commercial property (service station); to the southwest, vacant parcel; both properties classified Local Retail Commercial (LRC) and zoned PCD, Planned Commercial Development.

BACKGROUND

The 2.04-acre parcel is currently developed with a one-story, 30-year old rundown office building. The applicant, representing a global discount supermarket chain Aldi, Inc., proposes to redevelop the property with a 18,848 square foot store. In addition to the FLUM amendment and rezoning, the requests under concurrent consideration include site plan approval and a variance for the rear setback.

The approval of the subject requests would bring the first Aldi store to the city. In recent years, the company opened stores in Delray, Boca Raton and West Palm Beach.

Aldi operates approximately 10,000 stores wordwide; it has been present in the U.S. since 1976 where it also owns Trader Joe's.

REVIEW BASED ON CRITERIA

The following criteria used to review Comprehensive Plan Map amendments and rezonings are listed in the Land Development Regulations, Chapter 2, Article II, Section 2.B and Section 2.D.3:

a. Demonstration of Need. *A demonstration of need may be based upon changing conditions that represent a demand for the proposed land use classification and zoning district. Appropriate data and analysis that adequately substantiates the need for the proposed land use amendment and rezoning must be provided within the application.*

The subject request will allow to expand the use options for the site and support redevelopment more in line with the character and intensity of the existing commercial uses in the area. Such uses serve the continuously expanding population in the residential communities along the Congress Avenue corridor, incuding the incoming

Cortina development which may bring over 1,500 new residents within a mile of the project.

The proposed use, ALDI supermarket, will join the nearby Walmart and BJ's Wholesale Club in offering grocery items at discounted or very low prices.

The subject FLU amendment and rezoning is also supported by market trends, which demonstrate more support for retail than for office development in the City. Boynton Beach does not have class "A" office, and the vacancy rates for classes "B" and "C" have been high in recent years. According to the the Cushman and Fields' 1st quarter 2017 report, the overall office vacancy rate in the Boynton market was 23.4%, the highest among the Palm Beach county municipalities (it was 13.8% countywide). On the other hand, Collier Intenational's review of the same period states:

"Investors are attracted to the Palm Beach County retail market. Trading activity recorded $236 million in the first quarter of 2017 which amounts to almost triple the trading activity one year ago. Retail is trading at a premium when close to densifying urban neighborhoods."

b. Consistency. *Whether the proposed Future Land Use Map amendment (FLUM) and rezoning would be consistent with the purpose and intent of, and promote, the applicable Comprehensive Plan policies, Redevelopment Plans, and Land Development Regulations.*

There is not as yet a plan for the Congress Avenue corridor to guide redevelopment, but the proposed future land use amendment and rezoning are consistent with the general intent of the policies of the Comprehensive Plan's Future Land Use Element, which recognize and support commercial uses as goods/services providers and job generators, including, for example:

> *Policy 1.17.1 The City shall continue to review the Land Development Regulations to improve approval processes and to remove unnecessary hurdles hindering industrial and commercial uses that create jobs, contribute to the tax base, and accommodate market trends*.; and
>
> *Policy 1.17.6 The City shall continue to apply Economic Development Benefits review criteria to all rezoning and Future Land Use Map amendment requests to limit the conversion of industrial and commercial land to other uses.*

In addition, the proposed future land use amendment and rezoning supports "Strong Local Economy," one of the 9 objectives of the City's Strategic Plan.

Consistency with Land Development Regulations (LDR)

The application for the Master/Site Plan complies with the development regulations of the C-3 Community Commercial zoning district, other than the rear setback at the south side of the property. The applicant has submitted concurrent variance application and

justification in an effort to deviate from those design regulations.

c. Land Use Pattern. *Whether the proposed Future Land Use Map amendment (FLUM) and rezoning would be contrary to the established land use pattern, or would create an isolated zoning district or an isolated land use classification unrelated to adjacent and nearby classifications, or would constitute a grant of special privilege to an individual property owner as contrasted with the protection of the public welfare. This factor is not intended to exclude FLUM reclassifications and rezonings that would result in more desirable and sustainable growth for the community.*

The land use pattern in adjacent and nearby areas is eclectic: it incorporates commercial uses of office and retail as well as single-family residential uses. The proposed FLU category and zoning district are more consistent with the land use and zoning patterns than the existing ones: except the subject property and one directly south of it, all commerciallly developed parcels in the area along the W. Boynton Boulevard carry the Local Retail Commercial category. Also, except for three PCDs (Planned Commercial Developments), the C-3 zoning prevails. Note that the development intensity of LRC future land use and C-3 zoning aligns with the high traffic volumes carried by urban principal arterials such as Boynton Beach Boulevard.

d. Sustainability. *Whether the proposed Future Land Use Map amendment (FLUM) and rezoning would support the integration of a mix of land uses consistent with the Smart Growth or sustainability initiatives, with an emphasis on 1) complementary land uses; 2) access to alternative modes of transportation; and 3) interconnectivity within the project and between adjacent properties.*

The proposed amendment/rezoning supports the integration of the land uses consistent with the smart growth and sustainability initiatives since it provides uses complementary to the existing ones.

Further, the commercial zoning, and planned grocery store would provide the neighborhoods along Knuth road with walkable option for convenience and other grocery items, or at least a driving option which avoids the greater roadway network

e. Availability of Public Services / Infrastructure. *All requests for Future Land Use Map amendments shall be reviewed for long-term capacity availability at the maximum intensity permitted under the requested land use classification.*

Water and Sewer. Long-term capacity availability for potable water and sewer for the subject request has been confirmed by the Utilities Department.

Solid Waste. The Palm Beach County Solid Waste Authority determined that sufficient disposal capacity will be available at the existing landfill through approximately the year 2046.

Drainage. Drainage will be reviewed in detail as part of the site plan, land development, and building permit review processes.

Traffic. Traffic impact will be reviewed as part of the site plan.

f. Compatibility. *The application shall consider the following factors to determine compatibility:*

(1) Whether the proposed Future Land Use Map amendment (FLUM) and rezoning would be compatible with the current and future use of adjacent and nearby properties, or would negatively affect the property values of adjacent and nearby properties; and

(2) Whether the proposed Future Land Use Map amendment (FLUM) and rezoning is of a scale which is reasonably related to the needs of the neighborhood and the City as a whole.

See responses to critera "a" and "c." The proposed FLUM category and zoning district would be more compatible with the current and future use of adjacent and nearby properties than the subject property's current designations. The amendments are likely to positively affect property values in the surrounding area.

As previously noted, the land use pattern in adjacent and nearby areas is eclectic: it incorporates commercial uses of office, retail uses of various scales from small to major—including the 100,000 square foot BJs Shopping Center—as well as single-family residential uses. Except for one single family home near the northeast corner of the project, the abutting single family neighborhood to the east is separated from the subject property by a private road, and the same neighborhood directly abuts Boynton Beach Boulevard—an intense arterial roadway—to the north, and the BJs to the east. The subject rezoning would create an additional but certainly lesser impact on this neighborhood than these two uses but, at the same time, it would add another option of attractively priced staple goods in a walking distance grocery store.

Hence, the amendments and the proposed use they support are "reasonably related" to the needs of the neighborhood and the City as a whole. Local residents can benefit, as well as others, budget-conscious and/or seeking alternatives to what is available elsewhere. ALDI sells store-specific brands, can provide significant savings on national brands, and partners—whenever possible—with local farmers.

g*. *Economic Development Impact Determination for Conventional Zoning Districts. *For rezoning/FLUM amendments involving rezoning to a conventional zoning district, the review shall consider whether the proposal would further Economic Development Program, but also determine whether the proposal would:*

(1) Represent a potential decrease in the possible intensity of development, given the uses permitted in the proposed land use category and/or zoning district; and

(2) Represent a potential decrease in the number of uses with high probable economic development benefits.

The answer to both questions is "no." The proposed amendment would represent the increase in both possible intensity of development and in number and type of commercial uses with "high probable economic development benefits."

h. Commercial and Industrial Land Supply. *The review shall consider whether the proposed rezoning/FLUM amendment would reduce the amount of land available for commercial/industrial development. If such determination is made, the approval can be recommended under the following conditions:*

(1) The size, shape, and/or location of the property makes it unsuitable for commercial/industrial development; or

(2) The proposed rezoning/FLUM amendment provides substantiated evidence of satisfying at least four of the Direct Economic Development Benefits listed in subparagraph "g" above; and

(3) The proposed rezoning/FLUM amendment would result in comparable or higher employment numbers, building size and valuation than the potential of existing land use designation and/or rezoning.

The proposed rezoning does not reduce the amount of land available for commercial/industrial development. It keeps and further intensifies the potential commercial redevelopment of the site.

i. Alternative Sites. *Whether there are adequate sites elsewhere in the City for the proposed use in zoning districts where such use is already allowed.*

Note that the subject parcel is not vacant. There are 3 (three) vacant parcels within the city carrying the C-3 zoning AND close in size to the property under consideration. These may not be currently on the market and/or their location may not be suitable for a grocery store. As discussed previously in this report, the proposed amendment/rezoning will make the property more consistent with the area land use patterns.

j. Master Plan and Site Plan Compliance with Land Development Regulations. *When master plan and site plan review are required pursuant to Section 2.D.1.e above, both shall comply with the requirements of the respective zoning district regulations of Chapter 3, Article III and the site development standards of Chapter 4.*

For the master plan/site plan review, see the corresponding staff report. As already

mentioned, the application for the Master/Site Plan complies with the development regulations of the C-3 Community Commercial zoning district, other than the rear setback at the south side of the property. The agent has submitted concurrent variance application and justification in an effort to deviate from those design regulations.

CONCLUSION/RECOMMENDATION

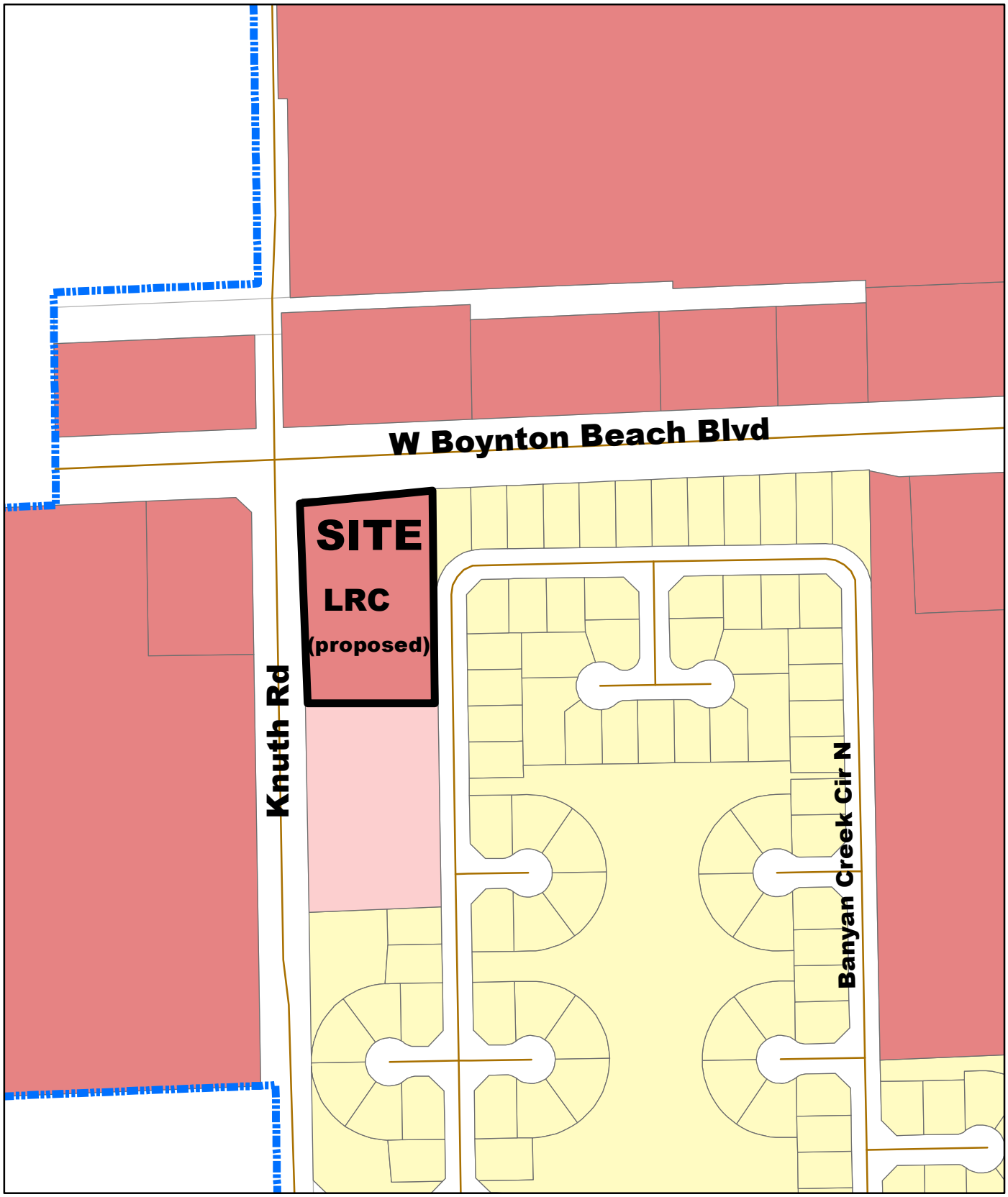
As indicated herein, staff has reviewed the proposed FLU amendment and rezoning and determined that it meets the review criteria for the subject applications. Therefore, staff recommends approvals of the subject requests.

S:\Planning\SHARED\WP\PROJECTS\Aldi Grocery\ALDI LUAR 17-006\LUAR 17-006 Aldi Store Staff Report.doc

SITE LOCATION MAP

EXHIBIT B

ALDI: PROPOSED FLU (LUAR 17-006)



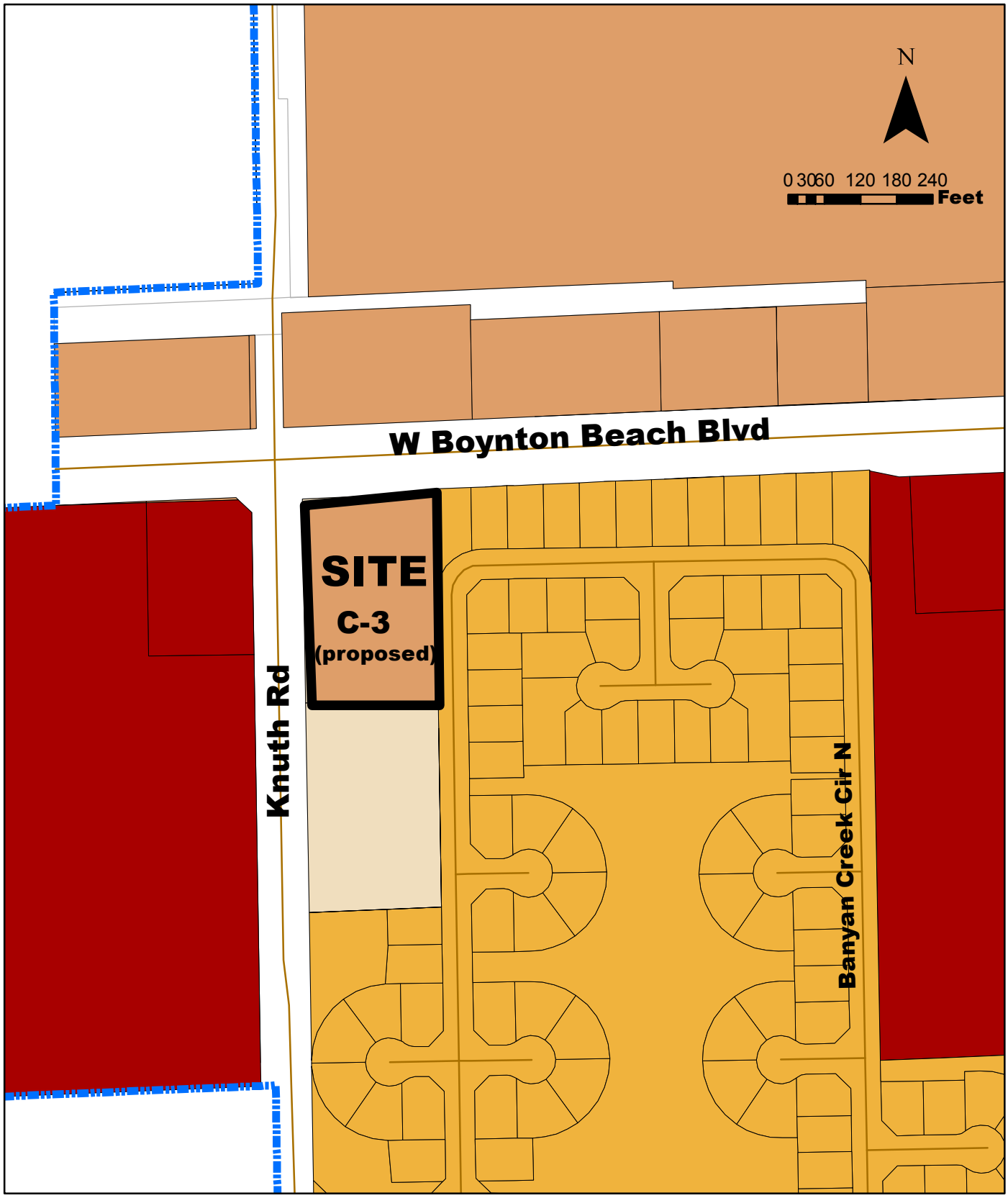
Legend: FLU Categories

- LOW DENSITY RESIDENTIAL (LDR), 7.5 D.U./Acre
- LOCAL RETAIL COMMERCIAL (LRC)
- OFFICE COMMERCIAL (OC)
- CITY BOUNDARY

N

0 30 60 120 180 240 Feet

ALDI: PROPOSED ZONING (LUAR 17-006)



Legend: ZONING DISTRICTS

- PLANNED UNIT DEVELOPMENT (PUD)
- C-3 COMMUNITY COMMERCIAL
- C-1 OFFICE PROFESSIONAL
- PLANNED CIMMERCIAL DEVELOPMENT (PCD)
- CITY BOUNDARY

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Approve Aldi Grocery Variance (ZNCV 17-001) for the relief from the City of Boynton Beach Land Development Regulations, Chapter 3, Article III, Section 3.C.3., Community Commercial (C-3) Building/Site Regulations, requiring a minimum rear setback of 20 feet, to allow a rear setback of 14 feet, a variance of 6 feet, for a proposed Aldi Grocery Store within the C-3 Community Commercial zoning district. Applicant: Bonnie Miskel, Duany, Miskel & Backman, LLP.

EXPLANATION OF REQUEST:
Bonnie Miskel of Dunay, Miskel & Backman LLP, representing property owner MG3 3452 West Boynton LLC and applicant/contract purchaser Aldi, Inc., is requesting concurrent Land Use & Rezoning, Major Site Plan Modification, Community Design Appeals and Zoning Code Variance approval to construct a 17,880 square foot grocery store and related site improvements at the SE corner of Boynton Beach Boulevard and Knuth Road. On November 15, 2016, the City Commission approved a request for Conditional Use / Major Site Plan Modification to convert the vacant 13,640 square foot office building to a day care operation for up to 200 children.

This new plan for a grocery store has been designed depicting a 30 foot wide segment of the building with a 14 foot rear (south) setback, with the remainder of the rear of the building (approximately 90 feet) at a 31 foot setback, 11 feet further from the rear property line than required by code. As a result, the applicant is requesting a variance for a reduction in the minimum required rear building setback of 20 feet to 14 feet resulting in a variance of 6 feet. This reduction equals a variance of 6 feet for approximately one-quarter of the width of the proposed building.

Based on staff's analysis, it would appear as though the variance request does not satisfy all of the above criteria; however, there are strong arguments for approval of the variance, based upon:

1. the uniqueness of this C-3 site, being smaller than other surrounding C-3 sites with the same locational criteria and which currently accommodate big box users;
2. the setback reduction request is for only a small portion of the building which abuts a parking lot for an office building to the south, thereby creating no external impact;
3. the portion of the building creating the need for a variance actually acts as a solid buffer of the loading operations from the residential development to the east;
4. the request is the minimum variance necessary to make site operations functional; and
5. the request provides adequate separation between properties, while providing for proper site and emergency circulation, screening of back of house operations, and adequate air circulation and natural light to adjacent properties.

Therefore, staff recommends APPROVAL of the requested variance to reduce the rear (south) setback for a small segment of the building. This request will not be injurious or detrimental to the area in general or any property owner in particular.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? N/A

FISCAL IMPACT: Collection of fees associated with building permits, business tax, and property tax.

ALTERNATIVES: None recommended.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION: N/A

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION: N/A

Is this a grant?

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Approve Aldi Grocery Community Design Appeals (CDPA 17-006) from 1) Chapter 4, Article III, Section 3.G., "Overhead doors facing rights-of-way"; 2) Chapter 4, Article III, Section 7.D.2., "Parapet roof return requirements"; 3) Chapter 4, Article III, Section 7.G.2. "Covered walks along building facades"; and 4) Chapter 4, Article III, Section 7.J.1. "Off-street parking locational criteria". Applicant: Bonnie Miskel, Dunay, Miskel & Backman, LLP.

EXPLANATION OF REQUEST:
Bonnie Miskel of Dunay, Miskel & Backman LLP, representing property owner MG3 3452 West Boynton LLC and applicant/contract purchaser Aldi, Inc., is requesting concurrent Land Use & Rezoning, Major Site Plan Modification, Community Design Appeals and Zoning Code Variance approval to construct a 17,880 square foot grocery store and related site improvements at the SE corner of Boynton Beach Boulevard and Knuth Road. On November 15, 2016, the City Commission approved a request for Conditional Use / Major Site Plan Modification to convert the vacant 13,640 square foot office building to a day care operation for up to 200 children.

After review of the requests, applicant justifications, proposed mitigation measures, and ultimate building and site design, staff has determined that the project meets the intent of the review criteria for Community Design Appeals in relation to 1) the remote location and screening of the overhead bay door; 2) appropriate building scale, mass and finishes providing a complete 360 degree design; 3) provision of alternative covered pedestrian amenities servicing a greater portion of the parking lot and allowing for larger landscape areas; and 4) added parking lot improvements to decrease the appearance of a large asphalt parking field. In addition, the proposed design of the project is not inconsistent with the Comprehensive Plan, will not significantly detract from the livability within or appearance of the City, will provide a well-located business with enhanced site amenities at a key intersection of the City, and finally, the project should not have any adverse impact on property values of abutting or adjacent land.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? N/A

FISCAL IMPACT: Collection of fees associated with building permits, business tax, and property tax.

ALTERNATIVES: None recommended.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION:

Is this a grant?

Grant Amount:

CITY OF BOYNTON BEACH
AGENDA ITEM REQUEST FORM

COMMISSION MEETING DATE: 11/7/2017

REQUESTED ACTION BY COMMISSION: Approve Aldi Grocery Major Site Plan Modification request (MSPM 17-005) to construct a one-story, 17,880 square foot grocery store building and related site improvements at 3452 W. Boynton Beach Boulevard. Applicant: Bonnie Miskel, Dunay, Miskel & Backman, LLP.

EXPLANATION OF REQUEST:
Bonnie Miskel of Dunay, Miskel & Backman LLP, representing property owner MG3 3452 West Boynton LLC and applicant/contract purchaser Aldi, Inc., is requesting concurrent Land Use & Rezoning, Major Site Plan Modification, Community Design Appeals and Zoning Code Variance approval to construct a 17,880 square foot grocery store and related site improvements at the SE corner of Boynton Beach Boulevard and Knuth Road. Previously, on November 15, 2016, the City Commission approved a request for Conditional Use / Major Site Plan Modification to convert the vacant 13,640 square foot office building to a day care operation for up to 200 children.

As part of the Major Site Plan Modification review process, the one story building is being processed under the City's Big Box regulations, for commercial buildings in excess of 15,000 square feet. The building is designed with varying parapet heights, with the tallest at 26 feet, and provides the requisite two (2) site amenities. The applicant has chosen a covered trellis amenity and a backlit tower feature at the building entry. The applicant has also provided the required 12 foot landscape buffer with wall abutting the residential community to the east. A new driveway is proposed to be located on Boynton Beach boulevard, with a second driveway along Knuth Road.

Staff has reviewed this request for major site plan modification approval and recommends approval contingent upon approval of the companion land use and rezoning, variance, and community design appeal applications, and upon satisfying all comments indicated in Exhibit “C” – Conditions of Approval.

HOW WILL THIS AFFECT CITY PROGRAMS OR SERVICES? N/A

FISCAL IMPACT: Collection of fees associated with building permits, business tax, and property tax.

ALTERNATIVES: None recommended.

STRATEGIC PLAN:

STRATEGIC PLAN APPLICATION:

CLIMATE ACTION:

CLIMATE ACTION DISCUSSION:

Is this a grant?

Grant Amount: