Avaya IP Office™ Platform
Release 9.1
Product Update Document
(Offer Definition)

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Date: July 16, 2015

Document Definition:		
✔	**Product Update**	**This is a communication that summarizes "what's new" within a given release regarding any changes or enhancements to an existing GA (Generally Available) product.**

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Revision History

Date	Rev.	Description
October 22, 2014	1.0	Initial Partner Release.
December 16, 2014	2.0	Section 1.1 Key Messages Section 2.1 Availability for Avaya Distributors Section 5.2.2 IP Office Select Section 5.2.3 Scalability Enhancements Section 5.4.7 Avaya Communicator Section 5.8 Security Section 6 Upgrading Section 7 Interoperability Table Section 8 IP Office R9.1 Interoperability Deployment Scenarios Section 10.3 IP Office Release License Appendix A: New IP Office R9.1 Software License Material Codes Appendix B: IP Office R9.1 Select Migration Process
January 20, 2015	2.1	Section 2.1 Availability for Avaya Distributors Section 5.5.1 New Unified Communications Module (UCM V2) Next Generation Processor for Voicemail Pro and one-X Portal
February 02, 2015	2.2	Appendix A: New IP Office R9.1 Software License Material Codes Appendix B: IP Office R9.1 Select Migration Process
February 23, 2015	2.3	Section 5.8.2 TLS and SRTP Encryption Section 7 Interoperability Table Appendix A: New IP Office R9.1 Software License Material Codes
March 26, 2015	2.4	Section 5.3.2 Avaya Aura® Centralized Applications, Services, and Solutions Section 5.5.17 Add Override Restriction/Barring Option for Each Entry Section 7 Interoperability Table Section 8.7 IP Office and Avaya Session Boarder Controller for Enterprise (SBCE)
April 1, 2015	2.5	Section 5.2.1 Introduction Section 5.2.2 IP Office Select Section 5.2.3 Scalability Enhancements (Exclusive to IP Office Select)
June 5, 2015	2.6	Section 2.1 Availability for Avaya Distributors Section 7 Interoperability Table
July 16, 2015	2.7	Appendix A: New IP Office R9.1 Software License Material Codes

Contents

1 IP Office Release 9.1 Summary

1.1 Key Messages

Release 9.1	Resellers/Partners	Customers
IP Office Select	• New Mid-market product offer, increasing the addressable market with 2500 users (3000 users with Select R9.1.2 FP), 100% UC across 150 sites • Extensive resiliency options • Continued low TCO and simplicity for Mid-market • Non-Select Server Edition available	• TCO and simplicity for Mid-market • Mid-market scale of 2500 users (3000 users with Select R9.1.2 FP) with 100% UC across 150 sites. • Delivers resiliency and security without complexity
Branch Enhancements	• One platform to sell, install, and maintain • Single stocking & sparing • Simplified training & certification for partners • Faster troubleshooting with enhanced voice quality monitoring.	• Turnkey, simple solution, meeting needs of smaller branches • Simplified purchasing options • Grows seamlessly with business needs • Investment protection • Full suite of endpoints for mobility and collaboration
Key Features	• Improved performance with new UCM V2 • Expanded global reach with additional localization • Wide range of core telephony enhancements • DECT R4 resiliency for critical mobile communications • Reduced cost of support with expanded SSL/VPN remote access • Supporting more SIP trunk implementation scenarios	• Meeting evolving customer business requirements • Simplicity and affordability of the IP Office platform for more global markets • Faster support for reduced service interruption • Broader selection of SIP trunk service providers
Unified Communications	• Web collaboration broadens product offer and strengthens competitive positioning • Increase overall margins with high margin UC applications • Deliver impactful demos using rich UC innovations • Deliver higher value and be more competitive in the SME and mid-market segment.	• Web conferencing delivers improved collaboration. • Access Unified Communications on BYOD devices (iPhone, iPad, Android) • Fulfill UC aspirations similar to a large enterprise – integration, advanced features – with limited resources • Integration with industry-standard apps (Outlook, Lync, Salesforce, AD, LDAP)
IP Office Web Manager	• Expanded solution set, enhanced user interface, LDAP user	• New end-user management features exposed for additional

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Release 9.1	Resellers/Partners	Customers
	synchronization with IP Office Select, additional browser support, communications accessibility support, and much more. • Improved performance and usability	flexibility • Browser based Day 2 administration mobility, convenience and simplicity
Security	• SRTP/TLS delivers table stakes security requirements.	• Highly secure communications for the solution, includes signaling and media
GRIP Requests	• Listening and responding to Partner product enhancement suggestions	• Broader array of product capabilities to better meet customer business requirements

NOTE: Features listed are available worldwide unless otherwise specified. Not all of the features in IP Office Release 9.1 are supported on all platforms and phones - please see each feature's description for details.

2 General Availability Milestones

2.1 Availability for Avaya Distributors

December 22, 2014   New Avaya material codes are changed to available status in the following tools; note however, new material will be held until GA is declared on December 22.
   • Price List Administration Tool (PLAT) files
   • Global Product and Pricing Catalogue (GPPC)
   • Avaya Solution Designer (ASD) quoting
   • Avaya One Source Configurator quoting
   • Enterprise Configurator (EC Services quoting) Avaya Direct International (ADI) Licensing tool
   • Product Licensing and Delivery System (PLDS)

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December 22, 2014   IP Office R9.1 software and documentation is available for download from support.avaya.com

January, 2015   IP Office R9.1 DVDs are available at distribution.
August 10, 2015   UCM V2 available at distribution.

NOTE: The above dates are subject to change.

3 IP Office R9.1 Platform Support

Platform and features supported on the platform will be modified with the R9.1 release. Supported platforms are:
   • IP500 V2
   • IP Office for Linux (Server Edition, Virtualized Server Edition, Select)

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Customers can migrate to R9.1 by purchasing an upgrade license or under the terms of their IP Office Support Services support contract, as applicable. Customers migrating to R9.1 will be required to have an IP500 V2 control unit or supported servers with Server Edition. IP500 base cards, trunk cards and expansion modules are supported with IP500 V2 control unit and may migrate to the V2 control unit. Licenses will require a dongle swap to move from the IP500 key card to the IP500 V2 SD card.

All other Release 9.1 features are supported on all platforms. IP Office R9.1 Select features are supported with 'Select' material codes.

Customer Call Reporter (CCR/Advance Edition) will not be supported with R9.1. Refer to 5.6.6 section for information concerning CCR support and IP Office Contact Center

NOTE 1: Some capabilities, such as support for Norstar/BCM digital phones and others are supported with Server Edition when used with an IP Office IP500 V2 Expansion System.

NOTE 2: IP Office R9.1software cannot be used on IP401, IP403, IP406, IP406 V2, IP412, IP500, or Small Office Edition hardware platforms.

Release 9.1 will not be supported on IP500 (version 1) Control Unit (700417207)
As new features requiring greater processing power and memory are added to the IP Office applications family, the ability of older control units to support these features decline. The IP500 version 1 control unit will not be supported to run R9.1 software. Customers looking to migrate from older control units will be required to replace the control unit by purchasing an IP500 V2 control unit. IP500 base cards, station and trunk cards will migrate to the IP500 V2 CU.

IP400 hardware will be no longer supported with Release 9.1 ongoing
This includes IP400 series internal cards, expansion modules and trunk cards listed below. The recommendation is to migrate customers to the supported IP500 V2 control unit hardware and IP500 base cards, trunk cards and expansion modules. Ability to maintain and support the IP400 series of hardware has reached end of effective life and supporting these products is becoming difficult and costly for business partners and Avaya.

IP 400 VCM Cards
• IP400 VCM4   • IP400 VCM8   • IP400 VCM16   • IP400 VCM24   • IP400 VCM30
IP 400 Trunk and Station Cards
• Digital Station V1: 16 and 30 port variants (superseded by V2)   • Phone V1: 8, 16 and 30 port variants (superseded by V2)   • So8: ETSI BRI SO support
IP 400 Cards
• Analog Trunk Card Uni (ATM4U)   • Analog Trunk Cards (ATM4)   • BRI Trunk Cards   • T1 PRI Trunk Cards   • E1 PRI Trunk Cards   • E1R2 PRI Trunk Card
Legacy Card Carrier

The following IP400 trunk and station modules will continue to be supported with Release 9.1

IP 400 Trunk and Station Cards Supported in R9.1
• Analog trunk 16
• Digital Station V2: 16 and 30 port variants
• Phone V2: 16 and 30 port variants

4   Release Documentation

Detailed release information can be found in the following documents available with the Avaya IP Office R9.1 on DVD media or downloadable from support.avaya.com

- Product Description (Release 9.1)
- Technical Bulletin (Release 9.1)
- IP Office Knowledgebase - Contains all administrator and user documentation for IP Office - http://marketingtools.avaya.com/knowledgebase
- The Avaya support site – Contains all administrator and user documentation for IP Office - http://support.avaya.com

The Technical Bulletin and Release 9.1 Documentation will be available by GA:
- Go to support.avaya.com
- Select **Find Documentation and Technical Information by Product Name** under Downloads & Documents
- Enter 'IP Office' as your product
- Choose '9.1' as your release
- Click the 'Documents' radio button
- Click 'Enter' to see all documentation

The latest version of the IP Office Product Description Document, which defines the IP Office product in more detail, is found on the Avaya Partner Portal (www.avaya.com/salesportal) and will require a valid Single Sign On (SSO) user name and password to view it online. It is also available from support.avaya.com.

NOTE: *Always refer to the Avaya websites for the latest versions of product documentation.*

5   IP Office R9.1 Detailed Description of Enhancements

5.1   IP Office Select

IP Office Select
Avaya IP Office Select is a premium software solution that combines powerful, enterprise-class scalability, resiliency and security, required by mid-market customers with sophisticated requirements, as well as the simplicity, flexibility and value of the Avaya IP Office Platform.

IP Office Select builds on more than a decade of experience in building power and simplicity into the Avaya IP Office Platform by adding new R9.1 enterprise-grade features and capabilities, including:

- Increased scale, with support for up to 2500 users (3000 users with Select R9.1.2 FP) and 150 nodes, all supporting UC along with many more scalability enhancements

- Most flexible resiliency options, including VMware high availability and failover to expansion systems, including the IP500 V2 expansions
- LDAP directory user synchronization

Combined with the many other R9.1 enhancements, such as the ones listed below, IP Office Select becomes the most powerful and feature rich offering in the IP Office portfolio:

- DECT 4 resiliency
- Highly secure communications (media, control path, SCN, trunks), including H.323 trunk encryption
- Embedded web collaboration, based on Avaya Aura Conferencing
- Voice quality monitoring to support 3rd party monitoring applications
- Increased scalability of IP Office Contact Center to 250 agents
- Support for Avaya Communicator with common interface for Windows and iPad

By embedding enterprise-grade capabilities in the proven IP Office Platform and the surrounding components of the solution, while maintaining affordability and ease of use, Avaya meets the requirements of midsize businesses, reduces integration risk, and speeds time to results.

Please refer to section 5.2 for additional details on how Server Edition and IP Office Select can meet the requirements of the mid-market.

5.2 Server Edition

5.2.1 Introduction

IP Office Server Edition Release 9.1 delivers the third major phase of IP Office Server Edition development since the initial launch of Server Edition in IP Office R8.1. This investment reflects Avaya's continued focus on IP Office in the Mid-Market and delivers new enhancements in scalability, resiliency, security, and management.

IP Office Server Edition has been fully qualified and validated on the Dell R620 and Dell R210/R220 servers. Note that the Dell R620 (or OVA) is required for full R9.1 Server Edition capacity enhancements. The HP DL360 and DL120 servers remain supported in IP Office R9.1 at their original capacities. The capacities of the IP500 V2 expansion server are unchanged with IP Office R9.1.

NOTE: *As part of a normal lifecycle management, the Dell R210 will be replaced by the R220 shortly after GA of R9.1. Watch for future communication regarding exact phase in dates.*

Below are some highlights of IP Office R9.1 Server Edition and IP Office Select capacity enhancements (see next section for details on IP Office Select) which include support for 2500 users and 3000 users with IP Office Select R9.1.2 FP across 150 sites with 100% UC for all users.

Capacities	R9.0/R9.1 Server Edition	R9.1 Select	R9.1.2 FP Select
Solution Users	2000	2500	3000
Users on single server	1500	2500	3000
Nodes	32	150	150

Capacities	R9.0/R9.1 Server Edition	R9.1 Select	R9.1.2 FP Select
UC users	750	2500	3000
VM Ports	150	250	250
Solution VM Ports	150	500	500
Recording Channels	150	500	500
Paging Group Size	128	256	256
Hunt Groups	300	500	500
Conference Channels	256	512	512
Soft Console	32	50	50

5.2.2 IP Office Select

As described earlier in this document, IP Office R9.1 introduces a new product offer called IP Office Select. IP Office Select is a premium software solution. It includes all the features of IP Office Server Edition and an impressive list of incremental, enterprise grade functionality targeted at the mid-market customer with sophisticated requirements. The graphic below summarizes the positioning of IP Office Select, with additional features and capacity compared to IP Office Server Edition.
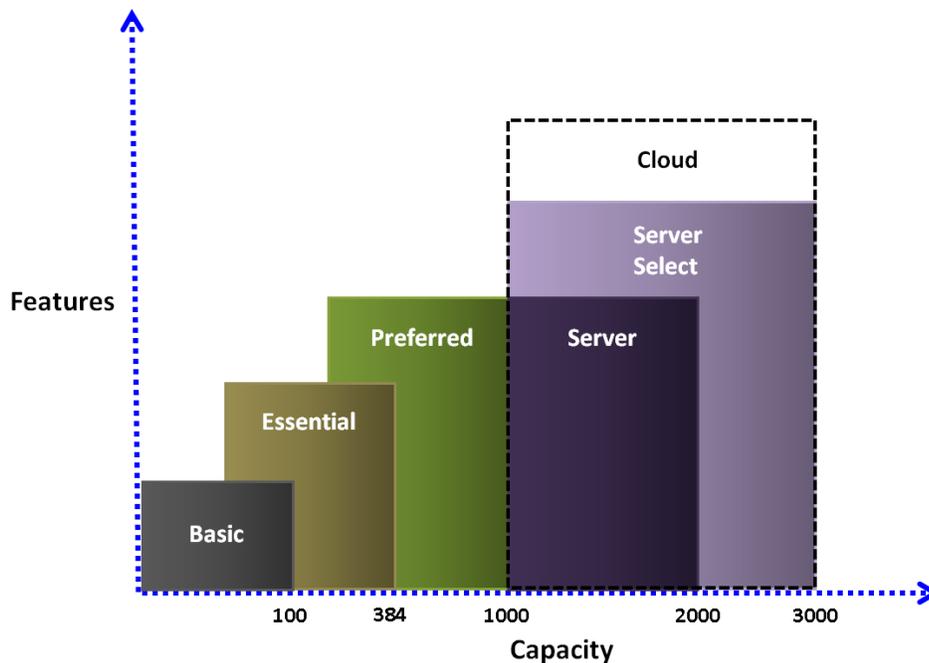
As outlined in the graphic above, IP Office Select is a superset of features in IP Office Server Edition: Specifically, all major IP Office R9.1 Server Edition capacity increases, resiliency improvements and certain new features are exclusive to IP Office Select. IP Office Select is supported on server and virtualized OVA platforms. IP Office Select is not applicable to Basic, Essential, or Preferred Editions.

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IP Office Select is a mode that is configured in the core IP Office and validated by licencing. IP Office Select mode can only be set by Manager and all systems/nodes within the deployment must be the same; either all Select or all Server Edition.

Select Licensing
Some key points below on the licensing for IP Office Select:
- IP Office Select licenses will only be supported via a PLDS license file. ADI licenses cannot be used for Select.
- IP Office Server Edition systems will continue to use ADI licensing for the installed base. New R9.1 IP Office Server Edition systems can be fully licensed in ADI, as per previous releases, or can be fully licensed in PLDS. PLDS licenses will be the default licensing type provisioned when configuring a new R9.1 Server Edition solution with either IP Office Contact Center or Avaya Contact Center Select.
- IP Office Select is a new product offering and R9.1 is the first release. As such, unlike moving from one Server Edition version to another, moving to IP Office Select is a migration activity. Existing Server Edition licenses need to be replaced by purchasing a new set of Select Migration licenses. See Appendix B for additional details. IP Office Call Center products IP Office Contact Center and Avaya Contact Center Select are not dependent on Select and therefore both will work with Server Edition and IP Office Select.

5.2.3   Scalability Enhancements (Exclusive to IP Office Select)

The table below summarizes the detailed capacity enhancements across IP Office Server Edition R8.1, R9.0/R9.1, and IP Office Select R9.1. In general, Server Edition R9.1 capacities are unchanged from IP Office R9.0 Server Edition. Note that some differing capacities are supported when used with the IP Office Contact Center and Avaya Contact Center Select applications.

Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
Users						
Maximum Solution Users	1000	2000	2000	2500	3000	The HP DL360 must be used for Primary and Secondary above 1500 solution users The Dell R620 must be used above 2000 solution users 'NoUser' and RAS Users not counted
Maximum users per DL360 (Primary/ Secondary)	500	1500	1500	1500	1500	No change in R9.1 DL360 capacities
Maximum users per Dell R620 (Primary/ Secondary)	n/a	n/a	2000	2500	3000	**New larger server: Dell R620**
Maximum users per R210/R220 (Primary/ Secondary)	500	750	750	750	750	No change in R9.1 DL120/R210/R220 capacities
Maximum users per R210/R220 (Expansion)	500	750	750	750	750	No change in R9.1 DL120/R210/R220 capacities
Maximum users per IP500 V2	384	384	384	384	384	
Extensions						

Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
Total Extensions	1000	2000	2000	2500	3000	The HP DL360 must be used for Primary and Secondary above 1500 solution users The Dell R620 must be used above 2000 solution users
Maximum extensions per DL360 (Primary/Secondary)	1000	1500	1500	1500	1500	96xx/16xx extension type. Includes any resilience fail-over extensions.
Maximum extensions per Dell R620 (Primary/Secondary)	n/a	n/a	2000	2500	2500	96xx/16xx extension type. Includes any resilience fail-over extensions.
Maximum extensions per R210/R220 (Primary/Secondary)	500	750	750	750	750	No change in DL120/R210/R220 capacities
Maximum extensions per R210/R220 (Expansion)	500	750	750	750	750	No change in DL120/R210/R220 capacities
Maximum DECT R4 Extensions per device	384	384	384	384	384	per R620, DL360, R210/R220 or IP500 V2
Maximum Remote Worker Extensions, HP DL360			**256**	256	256	Ignoring infrastructure limitations - Remote Worker calls require indirect media
Maximum Remote Worker Extensions, Dell R620	n/a	n/a	2000	2500	2500	Ignoring infrastructure limitations - Remote Worker calls require indirect media
Maximum Remote Worker Extensions, HP R210/R220			**128**	128	128	
Maximum Remote Worker Extensions, IP500 V2			**120**	120	120	
Maximum additional button module buttons per system, Linux		2048	**4096**	4096	4096	Regardless of whether the buttons are configured for use or not. **BM32 (1616 IP telephones):** • Up to three BM32 per phone, up to 128 per system (32 buttons each, total 4096 buttons) **BM12 (9608, 9611 and 9641 IP telephones):** • Up to three BM12 per phone, up to 341 per system (12 buttons each, total 4092 buttons) **SBM24: (9630G, 9640, 9640G, 9650, 9650C, 9608, 9611, 9641 IP telephones)** • Up to three SBM24 per phone, up to 170 per system (24 buttons each, total 4080 buttons). • A maximum of 24 bridged appearances to the same call appearance. • A maximum of 24 line appearances to the same line. • A maximum of 24 call coverages of the same covered user.
Maximum additional button module buttons per system, IP500 V2	1024	1024	1024	1024	1024	Regardless of whether the buttons are configured for use or not. **BM32 (1616 IP telephones):** • Up to three BM32 per phone, up to 32 per system (32 buttons each, total 1024 buttons) **DBM32 (1416 digital telephones):**

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Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
						• Up to three DBM32 per phone, up to 32 per system (32 buttons each, total 1024 buttons) **BM12 (9508 digital; 9608, 9611 and 9641 IP telephones):** • Up to three BM12s per phone, up to 85 per system (12 buttons each, total 1020 buttons) **SBM24: (9630G, 9640, 9640G, 9650, 9650C, 9608, 9611, 9641 IP telephones)** • Up to three SBM24 per phone, up to 42 per system (24 buttons each, total 1008 buttons). • A maximum of 10 bridged appearances to the same call appearance. • A maximum of 10 line appearances to the same line. • A maximum of 10 call coverages of the same covered user.
Multi-Site Network						
Maximum nodes/locations	32	32	32	150	150	More than 32 nodes supported when Primary/Secondary are R620 or OVA only; R210/R220/DL360 remains at 32 maximum
Maximum servers	2	2	2	2	2	2 Core Servers (Primary and Secondary). Both must be equivalent capacity to the other, mix of OVA and native supported.
Maximum expansions	30	30	30	148	148	More that 30 Expansions supported on R620 and OVA only; R210/R220/DL360 will remain at 30
Trunks						
Registered SIP Trunks, DL360/R620 (Primary/Secondary)	250	250	250	250	250	Maximum number of SIP trunks not number of SIP trunk channels
Registered SIP Trunks, R210/R220 (Primary/Secondary)	125	125	125	125	125	
Registered SIP Trunks, R210/R220 (Expansion)	125	125	125	125	125	
Registered SIP Trunks, IP500 V2	125	125	125	125	125	
Maximum SIP Channels, DL360 (Primary/Secondary)	256	512 (direct media) 256 (indirect media)	512 (direct media) 256 (indirect media)	512 (direct media) 256 (indirect media)	512 (direct media) 256 (indirect media)	See also concurrent VoIP call capacity below
Maximum SIP Channels, Dell R620 (Primary/SecondarY)	n/a	n/a	512 (direct media) 256 (indirect media)	**1024 (direct media) 512 (indirect media)**	**1024 (direct media) 512 (indirect media)**	See also concurrent VoIP call capacity below

Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
Maximum SIP Channels, R210/R220 (Primary/Secondary)	128	256 (direct media) 128 (indirect media)	256 (direct media) 128 (indirect media)	256 (direct media) 128 (indirect media)	256 (direct media) 128 (indirect media)	See also concurrent VoIP call capacity below
Maximum SIP Channels, R210/R220 (Expansion)	128	256 (direct media) 128 (indirect media)	256 (direct media) 128 (indirect media)	256 (direct media) 128 (indirect media)	256 (direct media) 128 (indirect media)	See also concurrent VoIP call capacity below
Maximum SIP Channels, IP500 V2	120	128 (direct media) 120 (indirect media)	128 (direct media) 120 (indirect media)	128 (direct media) 120 (indirect media)	128 (direct media) 120 (indirect media)	See also concurrent VoIP call capacity below
Maximum SCN trunks, Linux			32	150	150	
Maximum trunk channels per SCN trunk, Linux	128	250	250	**500**	**500**	Per link between Server Edition nodes
Maximum SCN trunks, IP500 V2			**32**	32	32	
Maximum trunk channels per SCN trunk, IP500 V2	128	250	250	250	250	Per link between Server Edition nodes
Maximum Web RTC Channels, DL360	n/a	n/a	**256**	256	256	See also concurrent VoIP call capacity below
Maximum Web RTC Channels, R620	n/a	n/a	**512**	512	512	See also concurrent VoIP call capacity below
Maximum Web RTC Channels, R210/R220	n/a	n/a	**128**	128	128	See also concurrent VoIP call capacity below
Call Processing						
DL360 Server call capacity (BHCC)	14400 with no one-X Portal users active 7200 with one-X Portal users active	18000 with no one-X Portal users active 9000 with one-X Portal users active	18000 with no one-X Portal users active 9000 with one-X Portal users active	18000 with no one-X Portal users active 9000 with one-X Portal users active	18000 with no one-X Portal users active 9000 with one-X Portal users active	Maximum qualified with: 96x1 H.323 users/extensions, total users/extension, active VM channels, active conference channels, logged in one-X Portal users, G.711 codec Performance with SIP extensions may be lower
R620 Server call capacity (BHCC)	n/a	n/a	18000 with no one-X Portal users active 9000 with one-X Portal users active	**20000** with no one-X Portal users active **10000** with one-X Portal users active	**20000** with no one-X Portal users active **10000** with one-X Portal users active	Maximum qualified with: 96x1 H.323 users/extensions, total users/extension, active VM channels, active conference channels, logged in one-X Portal users, G.711 codec Performance with SIP extensions may be lower
R210/R220 Server call capacity (BHCC)	7200 with or without one-X Portal users active	7200 with or without one-X Portal users active	7200 with or without one-X Portal users active	7200 with or without one-X Portal users active	7200 with or without one-X Portal users active	Maximum qualified with: 96x1 H.323 users/extensions, total users/extension, active VM channels, active conference channels, logged in one-X Portal users, G.711 codec Performance with SIP extensions may be lower

Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
IP500 V2 Expansion call capacity (BHCC)	7200	7200	7200	7200	7200	Maximum qualified with: 96x1 H.323 users/extensions, total users/extension, active VM channels, active conference channels, logged in one-X Portal users, G.711 codec Performance with Digital extensions may be higher Performance with SIP extensions may be lower
Overall call capacity (BHCC)	14400/7200	18000/9000	18000/9000	**20000/10000**	**20000/10000**	Maximum Servers, Expansions, users/extensions, conference channels, logged in one-X Portal users, with G.711 codec The overall solution call capacity is determined by a variety of external factors including the solution construct and network performance.
Concurrent VoIP calls: direct media	1000	2000	2000	2500	3000	Direct media is RTP/SRTP data directly between VoIP endpoints, not via IP Office Note there are some IP Office networking constraints to achieve direct media. Direct media with SRTP does not reduce the direct media capacity
Concurrent VoIP calls: RTP indirect media, HP DL360	256	256	256	256	256	One SRTP direct media call reduces the available RTP call capacity by 2
Concurrent VoIP calls: SRTP indirect media, HP DL360	n/a	n/a	**128**	128	128	Per SRTP call leg. Direct media SRTP calls do not use this capacity If SRTP transcoding is present, the capacity will be reduced by a further 50% to 64 concurrent calls
Concurrent VoIP calls: RTP indirect media, Dell R620	n/a	n/a	**1024**	1024	1024	One SRTP direct media call reduces the available RTP call capacity by 2
Concurrent VoIP calls: SRTP indirect media, Dell R620	n/a	n/a	**512**	512	512	Per SRTP call leg. Direct media SRTP calls do not use this capacity If SRTP transcoding is present, the capacity will be reduced by a further 50%
Concurrent VoIP calls: RTP indirect media, R210/R220	128	128	128	128	128	One SRTP direct media call reduces the available RTP call capacity by 2
Concurrent VoIP calls: SRTP indirect media, R210/R220	n/a	n/a	**64**	64	64	Per SRTP call leg. Direct media SRTP calls do not use this capacity If SRTP transcoding is present, the capacity will be reduced by a further 50%
Concurrent VoIP calls: RTP indirect media, IP500 V2	120	120	120	120	120	One SRTP direct media call reduces the available RTP call capacity by 2
Concurrent VoIP calls: SRTP indirect media, IP500 V2	n/a	n/a	**40**	40	40	Per SRTP call leg. Direct media SRTP calls do not use this capacity If SRTP transcoding is present, the capacity will be reduced by a further 50%
Concurrent VoIP calls: indirect media, IP500 V2 RTP relay	60	120	120	120	120	RTP or SRTP calls

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Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
VCM/transcoding channels, HP DL360	256	256	256	256	256	Specified capacity is for RTP and any codec combination. SRTP calls will reduce capacity by 50%.
VCM/transcoding channels, Dell R620	n/a	n/a	**1024**	1024	1024	Specified capacity is for RTP and any codec combination. SRTP calls will reduce capacity by 50%.
VCM/transcoding channels, R210/R220	128	128	128	128	128	Specified capacity is for RTP and any codec combination. SRTP calls will reduce capacity by 50%.
VCM/transcoding channels, IP500 V2	148	148	148	148	148	One channel used for normal calls, two channels are required for transcoding. VCM channel capacity is dependent upon the codec utilized: G.711 A/Mu - 148 G.729 - 140 G.722 - 140 G.723 - 108 A mix of codec types will reduce the capacity pro-rata"
Maximum Incoming Call Routes, Solution			4600	6000	6000	
Maximum Incoming Call Routes, Linux server			2300	3000	3000	
Maximum Incoming Call Routes, IP500 V2			**1000**	1000	1000	
Hunt/Presence Groups						
Maximum Hunt/Presence Groups	200	300	300	500	500	Total hunt groups in solution, including network and local. No more than 200 can be located on an IP500 V2
Maximum Hunt/Presence Group size	500	750	750	1250	1250	Maximum users in a single hunt group No more than 384 in a hunt group located on an IP500 V2
Total Hunt Group/Presence members	2000	3000	3000	5000	5000	Members spread over max hunt groups with a single hunt group not exceeding individual max size
Conferencing						
Conferencing channels	128 per DL360 128 per R210/R220 128 per IP500 V2	256 per DL360 128 per R210/R220 128 per IP500 V2	**256** per R620 256 per DL360 128 per R210/R220 128 per IP500 V2	**512** per R620 256 per DL360 128 per R210/R220 128 per IP500 V2	**512** per R620 256 per DL360 128 per R210/R220 128 per IP500 V2	Both ad-hoc and meet-me With one-X Portal users active, a solution-wide limit of 750 conference channels applies No dynamic solution-wide allocation supported, only static via call flows. Location of conference focus determined by: - ad-hoc at instigating users' location - meet-me at meet-me short code execution location
Maximum	42x3	85x3	85x3	85x3	85x3	

Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
Conferences, DL360						
Maximum Conferences, R620	n/a	n/a	85x3	**171x3**	**171x3**	
Maximum Conferences, R210/R220	42x3	42x3	42x3	42x3	42x3	
Maximum Conferences, IP500 V2	42x3	42x3	42x3	42x3	42x3	
Maximum conference size, DL360	2x64	1x256	1x256	1x256	1x256	
Maximum conference size, R620	n/a	n/a	1x256	**2x256**	**2x256**	
Maximum conference size, R210/R220	2x64	1x128	1x128	1x128	1x128	
Maximum conference size, IP500 V2	2x64	2x64	2x64	2x64	2x64	
Paging group size, DL360	64	128	128	128	128	Paging groups that include users on a V2 Expansion are limited to 64 Paging groups with SRTP endpoints will reduce the maximum size pro-rata up to 50%
Paging group size, Dell R620	n/a	n/a	**256**	256	256	Paging groups that include users on a V2 Expansion are limited to 64 Paging groups with SRTP endpoints will reduce the maximum size pro-rata up to 50%
Paging group size, R210/R220	64	128	128	128	128	Paging groups that include users on a V2 Expansion are limited to 64 Paging groups with SRTP endpoints will reduce the maximum size pro-rata up to 50%
Paging group size, IP500 V2	64	64	64	64	64	Paging groups with SRTP endpoints will reduce the maximum size pro-rata up to 50%
Messaging/Recording						
Mailboxes	1000	2000	2300	3000	3000	User or huntgoup mailboxes, per solution
Maximum Solution Voicemail/ Auto Attendant channels	100	150	150	500	500	With dual Voicemail Pro active on Secondary in 9.1. Total solution capacity reduced by 50% when only single Voicemail Pro active 1 active recording channel consumes one voicemail/AA channnel
Voicemail/ Auto Attendants channels, per DL360	100	150	150	150	150	1 active recording channels consumes one voicemail/AA channnel
Voicemail/ Auto Attendants channels, per Dell R620	n/a	n/a	**150**	250	250	1 active recording channels consumes one voicemail/AA channnel
Voicemail/ Auto Attendants channels, per R210/R220	40	75	75	75	75	1 active recording channels consumes one voicemail/AA channnel

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Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
Maximum Solution Recording/VRLA channel capacity	100	150	150	500	500	With dual Voicemail Pro active on Secondary in R9.1. Total solution capacity reduced by 50% when only single Voicemail Pro active 1 active recording channel consumes one voicemail/AA channnel
Maximum Recording/VRLA channel capacity, per server	42 per DL360 42 per R210/R220 42 per IP500 V2	85 per DL360 42 per R210/R220 42 per IP500 V2	**85 per R620** 85 per DL360 42 per R210/R220 42 per IP500 V2	**171 per R620** 85 per DL360 42 per R210/R220 42 per IP500 V2	**171 per R620** 85 per DL360 42 per R210/R220 42 per IP500 V2	Capacities are per node, up to the total solution capacity 1 recording channel takes 3 conference channels and one licensed voicemail channel Location of conference channels used determined by point of recording: - ICR recording done at trunk location - User recording done at users' location - System recording at node location. Maximum BHCC 10,000 (Linux), 3,600 (IP IP500 V2)
Message store capacity (hrs)	1000	1500	2300	3000	3000	
Single mailbox maximum capacity (mins)	60	60	60	60	60	Fixed - user or hunt group mailboxes
Total call recording capacity (hrs)	333	333	333	555	555	Fixed. Avaya Contact Recorder storage not included (separate server or separate hard drive)
TTS Channels, R620	n/a	n/a	**250**	250	250	For R9.1 (IP OFFICEFFICE-49423), total solution support 2x when Secondary Voicemail Pro active
TTS Channels, DL360/R210/R220	40	40	40	40	40	For R9.1 (IP OFFICEFFICE-49423), total solution support 2x when Secondary Voicemail Pro active
Voicemail Email users – IMAP/SMTP/MAPI	1000	2000	2000	2500	2500	SMTP Voicemail forwarding to email
Exchange Integration – MAPI	490	490	490	490	490	Legacy Microsoft Exchange Server two-way integration
Exchange Integration – WS	n/a	n/a	2000	2500	2500	Microsoft Exchange Server two-way integration
Productivity						
One-X Portal active clients on Primary DL360	200	300	750	750	750	Maximum including all one-X Portal client types of any mix, including plugins. HTTP or HTTPS. Not more than **50%** can be Avaya Communicator for **Windows** increase in R9.1 supported capacity for existing platform Lower call processing capacity (BHCC) applies when one-X Portal users are active
One-X Portal active clients on Primary R620	n/a	n/a	**750**	1250	1500	Maximum including all one-X Portal client types of any mix, including plugins. HTTP or HTTPS. Not more than **50%** can be Avaya Communicator for **Windows** Lower call processing capacity (BHCC) applies when one-X Portal users are active

Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
One-X Portal active clients on Primary R210/R220	100	150	375	375	375	Maximum including all one-X Portal client types of any mix, including plugins. HTTP or HTTPS. Not more than **50%** can be Avaya Communicator for **Windows** Increase in R9.1 supported capacity for existing platform Lower call processing capacity (BHCC) applies when one-X Portal users are active
One-X Portal active clients on separate DL360	n/a	750	750	1500	1500	Maximum including all one-X Portal client types of any mix, including plugins. HTTP or HTTPS. Not more than **50%** can be Avaya Communicator for **Windows** Increase in R9.1 supported capacity for existing platform Lower call processing capacity (BHCC) applies when one-X Portal users are active
One-X Portal active clients on separate Dell R620	n/a	n/a	**750**	2500	3000	Maximum including all one-X Portal client types of any mix, including plugins. HTTP or HTTPS. Not more than **50%** can be Avaya Communicator for **Windows** Lower call processing capacity (BHCC) applies when one-X Portal users are active
One-X Portal active clients on separate R210/R220	500	500	**750**	750	750	Maximum including all one-X Portal client types of any mix, including plugins. HTTP or HTTPS. Not more than **50%** can be Avaya Communicator for **Windows** Increase in R9.1 supported capacity for existing platform Lower call processing capacity (BHCC) applies when one-X Portal users are active
Web Collaboration capacity, Primary DL360	n/a	n/a	**21x3 -> 1x64**	21x3 -> 1x64	21x3 -> 1x64	Web Collaboration must run co-resident with the one-X Portal server
Web Collaboration capacity, Primary R620	n/a	n/a	**42x3 -> 2x64**	42x3 -> 2x64	42x3 -> 2x64	Web Collaboration must run co-resident with the one-X Portal server
Web Collaboration capacity, Primary R210/R220	n/a	n/a	**16x3 -> 1x48**	16x3 -> 1x48	16x3 -> 1x48	Web Collaboration must run co-resident with the one-X Portal server
Web Collaboration capacity, separate DL360	n/a	n/a	**85x3 -> 2x128**	85x3 -> 2x128	85x3 -> 2x128	Running on stand-alone one-X Server.
Web Collaboration capacity, separate R620	n/a	n/a	**171x3 -> 2x256**	171x3 -> 2x256	171x3 -> 2x256	Running on stand-alone one-X Server.
Web Collaboration capacity, separate R210/R220	n/a	n/a	**42x3 -> 2x64**	42x3 -> 2x64	42x3 -> 2x64	Running on stand-alone one-X Server.
SoftConsole active instances, Linux Server/Expansion	10 (Primary)	10	10	10	10	
SoftConsole active instances, V2 Expansion System	n/a	4	4	4	4	
SoftConsole active instances, SE solution	n/a	32	32	50	50	Per node capacity cannot be exceeded
Resilience						

Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
Server backup extension/users capacity, DL360	500	1500	1500	1500	1500	No additional capacity over normal users Avaya 16xx/96xx H.323 phones only
Server backup extension/users capacity, R620	n/a	n/a	2000	2500	3000	No additional capacity over normal users Avaya 16xx/96xx H.323 phones only
Server backup extension/users capacity, R210/R220	500	750	750	750	750	No additional capacity over normal users Avaya 16xx/96xx H.323 phones only
Server backup extension/users capacity, V2	384	384	384	384	384	
Maximum single phone failover time	3 minutes	3 minutes	3 minutes	3 minutes	3 minutes	Typically just over 2 minutes
Maximum complete server failover time, minutes	10	15	20	25	30	Primary with 50% solution maximum extensions/users, voicemail active and hunt groups. No extensions/users already on Secondary Server.
Maximum VMware HA Host failover time, Primary Server, minutes	n/a	n/a	n/a	25	30	Primary with 50% solution maximum extensions/users, voicemail active and hunt groups. Alternate ESXi host available, 30 seconds delay timers. Recommended vCPU and RAM.
Maximum VMware HA Host failover time, 1XP Stand-alone Server, minutes	n/a	n/a	n/a	25	30	Stand-alone 1XP server with 50% solution maximum Power Users Alternate ESXi host available, 30 seconds delay timers, recommend VM vCPU and RAM
Directory						
Centralized directory capacity entries	5000	5000	7500	7500	7500	Over complete solution. IP500 V2 limited to 2500 directory configuration entries maximum. 11xx/12xx cannot support above 1000 DECT R4 cannot support above 2000
Personal directory capacity, Linux	100 per user Total 10,800 per system	100 per user Total 10,800 per system	100 per user **Total 70,000 per system**	100 per user Total 70,000 per system	100 per user Total 70,000 per system	Total calculated at 28 avereage per user
Personal directory capacity, V2	100 per user Total 10,800 per system	100 per user Total 10,800 per system	100 per user Total 10,800 per system	100 per user Total 10,800 per system	100 per user Total 10,800 per system	
Call Log, Linux	30 per user	30 per user	**60 per user**	60 per user	60 per user	Last 60 retained. If hot desked to/from a V2 Expansion, only 30 retained.
Call Log, V2	30 per user	30 per user	30 per user	30 per user	30 per user	Last 30 retained.

Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
HTTP/TFTP user list capacity	1000	1680	2000	2500	3000	HTTP or TFTP. 11xx/12xx cannot support above 1000 total (Centralized + Users + hunt Groups). DECT R4 cannot support above 2000 (Centralized + Users + hunt Groups).
HTTP/TFTP HG list capacity	500	300	300	500	500	HTTP or TFTP. 11xx/12xx cannot support above 1000 total (Centralized + Users + hunt Groups). DECT R4 cannot support above 2000 (Centralized + Users + hunt Groups).
Networking						
DHCP server capacity, DL360	1000	1500	1500	1500	1500	Avaya IP phone and general DHCP client support
DHCP server capacity, R620	n/a	n/a	2500	3000	3000	Avaya IP phone and general DHCP client support
DHCP server capacity, R210/R220	500	750	750	750	750	Avaya IP phone and general DHCP client support
DHCP server capacity, IP500 V2	384	384	384	384	384	Avaya IP phone and general DHCP client support
Minimum DHCP server pools, Linux	24	42	150	150	150	Assumes 1 DHCP pool per node
DHCP server pools, IP500 V2	8	8	8	8	8	
HTTP/S phone server clients, DL360	1000	1500	1500	1500	1500	**HTTPS support new for R9.1**
HTTP/S phone server clients, R620	n/a	n/a	2000	2500	3000	**HTTPS support new for R9.1**
HTTP/S phone server clients, R210/R220	500	750	750	750	750	**HTTPS support new for R9.1**
Startup/Availability						
Phone service availability after restart, DL360/R620	not assessed	1000 within 10 minutes	1000 within 10 minutes	1000 within 10 minutes	1000 within 10 minutes	Able to make calls. 96xx phone with DHCP, no upgrade. No PoE or other data equipment start-up times included
Phone service availability after restart, R210/R220	not assessed	500 within 5 minutes	500 within 5 minutes	500 within 5 minutes	500 within 5 minutes	Able to make calls. 96xx phone with DHCP, no upgrade. No PoE or other data equipment start-up times included
Phone service availability after restart, IP500 V2	384 within 5 mimutes	384 within 5 minutes	384 within 5 minutes	384 within 5 minutes	384 within 5 minutes	Able to make calls. 96xx phone with DHCP, no upgrade. No PoE or other data equipment start-up times included
Phone service availability after VM restart, VMware	not assessed	not assessed	1000 within 10 minutes	1000 within 10 minutes	1000 within 10 minutes	Restart via vCenter command. Able to make calls. 96xx phone with DHCP, no upgrade. No PoE or other data equipment start-up times included Recommended vCPU and RAM settings.
Phone upgrade performance, DL360/R620	not assessed	200 per 50 minutes	200 per 50 minutes	200 per 50 minutes	200 per 50 minutes	For 96xx phone types: 16xx and 94xx types are typically quicker.
Phone upgrade performance, R210/R220	not assessed	100 per 50 minutes	100 per 50 minutes	100 per 50 minutes	100 per 50 minutes	For 96xx phone types: 16xx and 94xx types are typically quicker.
Phone upgrade performance, IP500 V2	50 per 50 minutes	50 per 50 minutes	50 per 50 minutes	50 per 50 minutes	50 per 50 minutes	For 96xx phone types: 16xx and 94xx types are typically quicker.
Licensing						
Licensing server	1	1	1	1	1	Primary as license server

Feature	Server Edition R8.1	Server Edition R9.0	Server Edition R9.1	IP Office Select R9.1	IP Office Select R9.1.2 FP	Caveats/Comments
Licensing client	31	31	31	149	149	

5.2.4 Site Capacity (Exclusive to IP Office Select)

The new Select capacity of 2500 users (3000 users with Select R9.1.2 FP) can be distributed across a maximum of 150 sites or locations (up from 32 sites with IP Office R9.0). This large number of sites expands the IP Office Mid-market addressable market significantly. The 150-site count includes the Primary/Secondary servers, and up to 148 Expansion servers; the Application Server not counted in this 150 limit.

5.2.5 Server Edition Core Software Resiliency Improvements (Exclusive to IP Office Select)

A number of resiliency enhancements are being delivered for improved flexibility of the IP Office Select deployments.
- Ability to configure hunt groups local to the Expansion System
- Ability to configure SCN trunks between Expansion Systems
- Ability to set per Expansion SCN resilience of hunt groups or phones towards the Primary, Secondary or another Expansion System
- Support of phone resilience via the Location feature for 16xx, 96xx and 96x1 phones.
- Ability for a specific group of extensions to failover to another expansion system
- Voicemail Pro application on Primary and Secondary supported in active-active configuration providing load balancing between the two servers and full resiliency in case one of the servers becomes unavailable.

These enhancements are described in more detail in the sections that follow.

5.2.6 Hunt Group Processing (Exclusive to IP Office Select)

With Select R9.1 Hunt groups can now be defined on any node including the Secondary server. Hunt groups can also be defined on Expansion servers for local processing or resilience to another Expansion. The default at the solution level is still the Primary. All hunt groups remain networked (SCN).

5.2.7 Expansion SCN Links (Exclusive to IP Office Select)

This Select-only feature allows Expansion servers to be linked with an SCN trunk, either via the new WebSocket feature or with SCN connection as with previous Server Edition releases.

This enhancement provides extra routing resilience as one Expansion server can now act as fall-back to another (phones and hunt groups) The diagram below shows Solution level link/unlink in Server Edition Manager: All routing is dynamic, no configuration required.
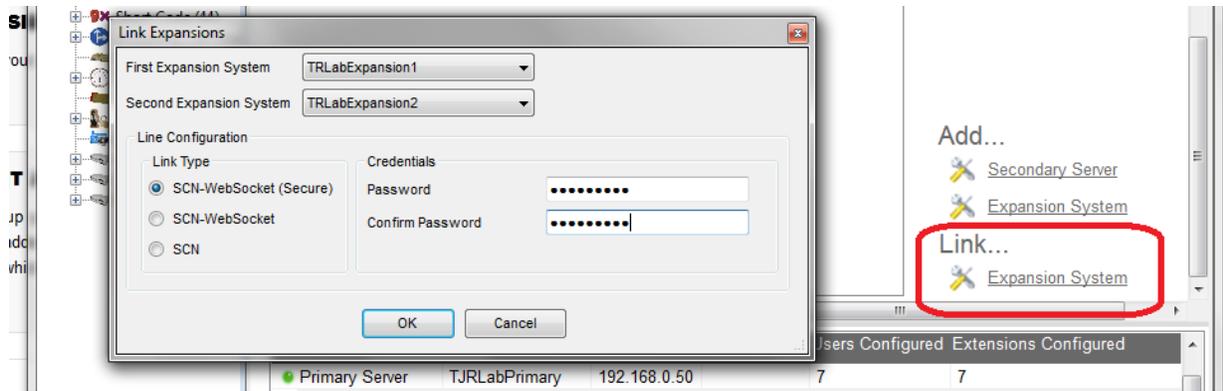
5.2.8   Location Resilience (Exclusive to IP Office Select)

Location resilience is a Select-only feature that allows the administrator to define a location (a group of H.323 extensions) and specify the fallback IP Office server for that group. This Location-based resilience overrides the system configuration. This flexibility now allows support for the following new resilient constructs:

- Primary/Secondary phones fall-back to one or more Expansions
- Expansion phone fall-back to another Expansion
- Hosted deployments where phones can fall-back from the cloud to local CPE

Configuration can be set-up so that only a subset of a node's H.323 phones are resilient (previous release had an all-or-nothing option). Phones not part of a Location with a fallback system defined set will follow the system fallback configuration. Supported phones are 96x1, 96x0, and 16xx.

H.323 phones can be configured to failback without phone restarts. This is a system-wide administrable control that will force H.323 phone (16xx, 96xx) in fail-over to re-register with their original gatekeeper when they are on-hook; this is not a phone reboot so it takes much less time. Automatic re-registration is the default for new installations; manual/reboot is the default for upgrades.

5.2.9   Location Time Zones

Location Time Zone is a new feature configured in the Location page in Manager to assign a time zone to a group of phones. This is useful for remote 'remote worker' sites typical of Hosted IP Office deployments and it applies the correct local time to a user's phone, voicemails, call logs, user rights, and more. This primary setting can be applied to any extension type, not just H.323. This feature is available on Essential Edition, Preferred Edition, Server Edition, and IP Office Select.
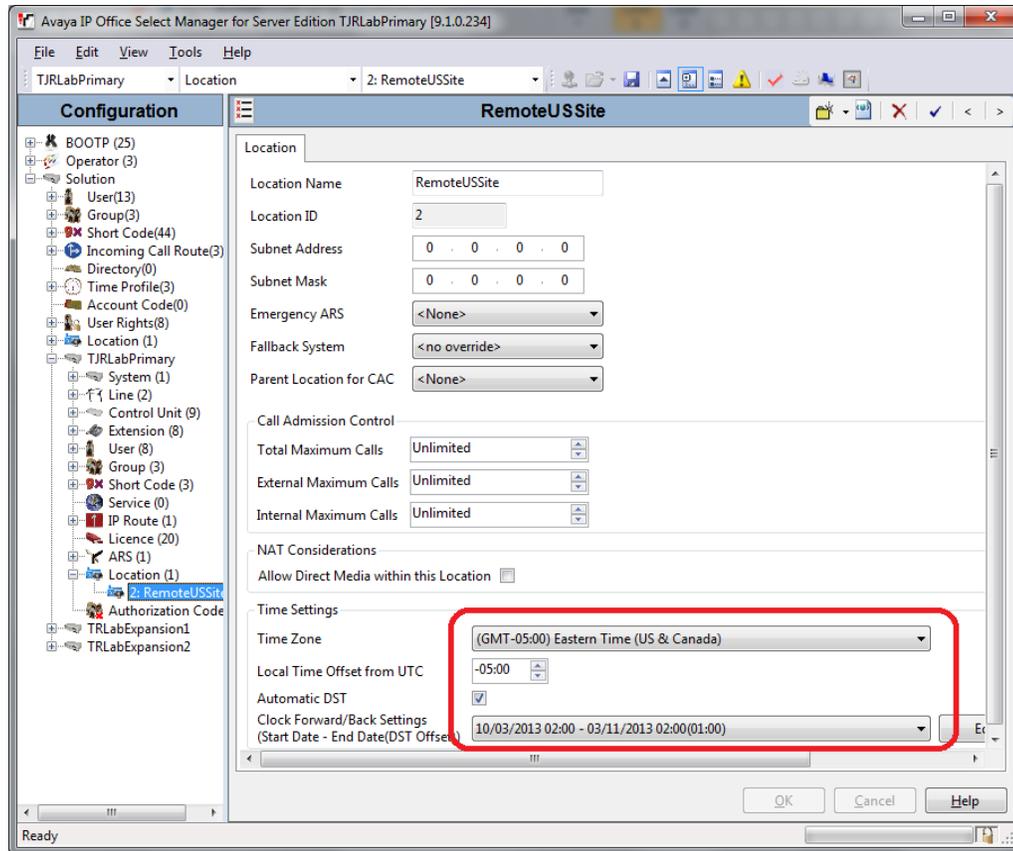
5.2.10 Dual Voicemail Pro (Exclusive to IP Office Select)

In IP Office Release 9.0 and earlier, Server Edition supported one active Voicemail Pro server at a time. The Primary Voicemail Pro server is always present, with an optional backup Voicemail Pro server on the Secondary Server.

With IP Office R9.1, the Voicemail Pro application on Primary and Secondary can be set-up in an active-active configuration providing twice the capacity between the two servers and full resiliency in case one of the servers becomes unavailable. The Primary/Secondary users will use the local Voicemail Pro instance, and each Server Edition expansion system can be configured to use one or the other. Each Voicemail Pro is a master and provides backup for the other.

The introduction of dual Voicemail Pro doubles the Server Edition Voicemail Pro channel capacity to 500 channels and provides a configurable choice of processing location (via ICU and Manager).

The two Voicemail Pro servers are both active for a configured subset of users. They share common configuration and message store, and each can support all mailboxes, MWI and call flows under failure conditions.

The two Voicemail Pro servers will continually synchronise between themselves, as at present for Master/Backup. This will harmonize configuration and message stores.

Hot-desking is supported; i.e the master Voicemail Pro for a particular user remains the same at all times. IP Office remains in control of Voicemail routing, allowing two to be active, detecting Voicemail Pro failures and adjusting the Voicemail leave/collect routing within the SCN.

When only the Primary server is present, Voicemail Pro operation will be the same as R9.0.

Upgrades of Server Edition R8.1 and R9.0 will be unchanged, but can enable dual Voicemail Pro if required but only for Select.

Dual Voicemail Pro operation on Basic / Essential / Preferred IP Office, Standard Server Edition, UCM and Application Server is not supported.

The current Release 9.0 failback controls (Manual / Graceful / Automatic) will continue to be supported. However, the default will be changed to Graceful.

Dual Voicemail Pro Licensing
In IP Office Release 9.0 and earlier, Server Edition supported one active Voicemail Pro server at a time and Voicemail Pro licenses were only required on the Primary Server. With IP Office R9.1 and Voicemail Pro in an active-active configuration, each 'master' Voicemail Pro on both the Primary and Secondary servers must have its own local licenses. If one Voicemail Pro fails, it will inherit the Voicemail Pro channels of the failed Voicemail Pro unit.

When acting as a backup, the Voicemail Pro inherits the other Voicemail Pro licenses as well. Virtual licenses are not displayed in the Manager configuration unless Primary/Secondary server is down. If only the Voicemail service on the Primary\Secondary server is down the server will still manage the licenses and call routing.

A single Contact Recorder instance is supported, either on the Primary server or separate Application Server, and requires activation by a local Recordings Administrator license.

The Primary Voicemail Pro when active will archive recordings for the whole SE solution.
On Primary server failure, the Secondary Voicemail Pro will collect the recordings for the whole SE solution and when the Primary server comes up again, these will be transferred to the Primary, from where the recordings will be archived by the Contact Recorder.

The combination of System | Voicemail settings now give the following deployment options:
- Dual Voicemail Pro, each acting as a backup (default for new Select installs, default when adding a Secondary).
- Dual Voicemail Pro, no backup operation.
- Single Voicemail Pro master (Primary), no backup.
- Single Voicemail Pro master (Primary) + backup (Secondary). Same as Release 9.0 operation, also default for upgrades.

The call flows are edited/created by connecting to the Primary Voicemail Pro, which will be synched over to the Secondary. Call flows can only be edited from the Secondary server when the Primary Voicemail Pro server is down.

IP Office R9.1 Server Edition channel capacity remains unchanged from IP Office R9.0 at 150.

R9.1 Dual Voicemail Pro Support
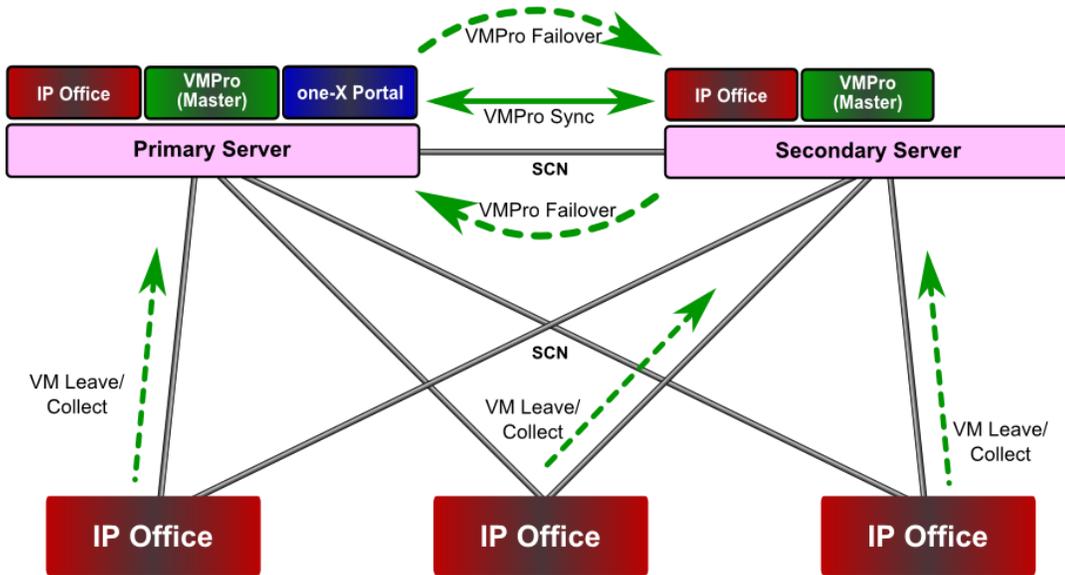
5.2.11 Server Edition Resiliency Improvements-VMware HA (Exclusive to IP Office Select)

An alternative to the IP Office core software resiliency described in the previous section, is a new IP Office R9.1 feature to support VMware High Availability (HA).

VMware HA is an option that provides a cold standby resilient host but cannot be used in conjunction with Server Edition resiliency. With IP Office R9.1 VMware HA is only supported on the primary server or Application server. It is not supported for users on the Secondary server, or Expansion servers.

Using this approach, a backup starts up after a failure has been detected. This can take up to 10 minutes to switch and is supported on vSphere 5.1 and 5.5. VMware HA is not to be confused with VMware Fault Tolerance (FT), which is a low-level, low-latency mirroring technology.
VMware HA protects against Host failures include power failure and ESXi kernel panic SE Linux CentOS crash
On VMware HA switch, any unsaved data and active calls will be lost. Licenses, network settings and saved data (e.g. voicemails, recordings and configuration) will be preserved.

While Server Edition resiliency requires the presence of at least two Server Edition servers in the solution, VMware HA requires the presence of at least two ESXi hosts. vSphere HA leverages multiple ESXi hosts configured as a cluster to provide rapid recovery from outages. It protects against a server failure by restarting the virtual machines on another host within the cluster. With SE resiliency, the information about the phones and users / hunt groups / voicemail is advertised between the SE machines. With VMware HA, no information is shared with other SE machines.

The VMware HA option should be considered for:
- Deployments to support resiliency for all IP endpoints and UC clients on a Primary server (not just H.323 endpoints)
- Deployments to support application resiliency for one-X Portal, Contact Recorder, or web collaboration.
- Deployments that can tolerate 10-15 minute downtime for failover and loss of existing sessions in the event of a failure.

VMware HA support for Expansions servers and VMware Application monitoring will be considered for future release.
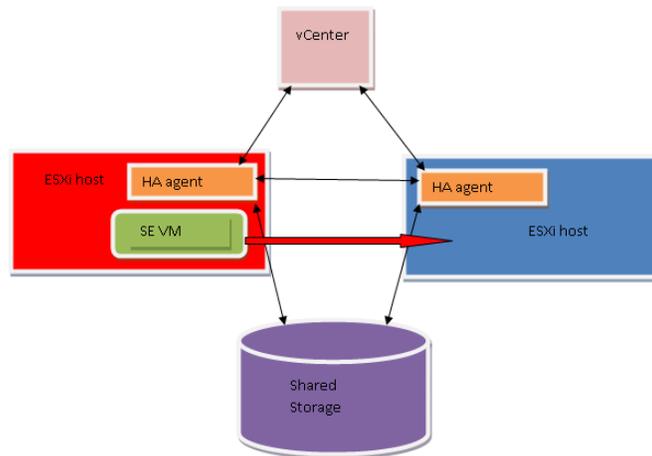
5.2.12 Virtualized Server Edition

Server Edition Release 9.1 VMware OVA mirrors all of the performance and capacity improvements of IP Office Server Edition Select.

IP Office R9.1 Virtualized Server Edition also picks up the latest VMware vSphere and hardware version support:

- ESXi 5.5 and hardware version 8
- Now supports more than 8 vCPUs
- R9.1 OVA requires ESXi 5.0+

Upgrade of existing OVA will not update ESXI, hardware version etc.

IP Office R9.1 also introduces a means to expand HD size for customers using Contact Recorder while not compromising those who don't. In IP Office R9.0 the virtualized OVA fixed the HD space at 100GB. With R9.1 a new primary HD Partition management option has been added allowing the administrator to increase from the default 100 GB using Web Control.First increase the virtual machine disk size using vSphere Web Client (after shutting down the machine). Then increase the root partition size from Web Control – will require an additional reboot.

5.2.13 LDAP/Active Directory Integration (Exclusive to IP Office Select)

Many large organizations use enterprise directories such as LDAP and Microsoft Active Directory to store employee basic information like user name, address, department, phone number.

IP Office Select R9.1 supports complete LDAP directory integration with automatic synchronization through Web Admin Portal. This simplifies and reduces time for Day-1 provisioning of users. See section 5.7 for additional details on this and other new Web Manager features.

The synchronization process can be run on-demand or as a scheduled job to reduce after hours support. User provisioning rules defined by the administrator provide additional flexibility. The synchronization can be used to Add/Edit/Delete user. Fields that can be synchronized from LDAP include Name, Full Name, Extension, E-mail Address.

Supported LDAP Servers:
- Active Directory 2008/2012
- OpenLDAP 2.4.21
- IBM Domino 7.0

- Novell eDirectory 8.8
- SunOne Directory/Java System Directory 6.3

User field synchronization screen

5.2.14 Built-in Certificate Authority

Aside from the extensive IP Office security enhancement of section 5.8 below, The R9.1 Primary and Application Servers now support a self-contained and secure Certificate Authority (CA) where new identity certificates can be created for solution entities (servers, phones etc.).

This provides a simple and cost-effective method for creating a Public Key Infrastructure (PKI) without the need for expensive, external 3rd-party certificates.   The CA can also be used with 3rd-party intermediate certificate and certificate chains.

5.3   Branch Enhancements

IP Office R9.0 Standard mode (Essential, Preferred and Advanced Editions) delivered the ability to deploy the IP Office as a branch solution with support for Standalone, Distributed, Centralized and Mixed deployment models.

IP Office R9.1 builds on this foundation and continues to evolve and enable Avaya's ability to provide cost-effective branch solutions for Enterprise customers. IP Office R9.1 when deployed as a Branch solution will include support for:
- Standalone Branch Offices
- Avaya Aura® and CS 1000 Distributed Branch Offices
- Avaya Aura® Centralized Branch Offices
- Avaya Aura® Mixed Branch Offices

The solution scalability and capacity requirements will support the following:
- The typical number of users (sweet spot): 5 to 50 per branch
- Maximum number of users supported is 384 users
- Typical number of locations: 10 to 2,000 branches

As with non-Branch IP Office based solutions, the product has the ability and flexibility to support a feature set that can range from basic telephony to rich Unified Communications. This enables the IP Office when deployed as a branch to target, as an example, the following vertical markets:
- Retail
- Financial institutions
- Hospitality (for example: restaurant chains)
- Government
- Education
- Health

With IP Office R9.1, Avaya continues to invest within the IP Office branch solution, which provides the following benefits to the Avaya channel partners and end customers.

Channel Partner benefits:
- Continue to leverage existing IP Office skill sets and the IP Office brand presence
- Offer enhanced Avaya Aura® branch solutions to the market
- Improve margins and profitability with quicker provisioning and management of branch solutions

End Customer benefits:
- Reduction in Capital Expenditures with the ability to utilize the UCM based branch solutions
- Optimize and reduce Operational Expenditures through increased simplicity and manageability of scalable branch solutions
- Improve branch productivity and market responsiveness through feature rich end user applications
- Enable an efficient collaborative work environment by taking leverage of Unified Communication applications and services

The new features implemented within IP Office R9.1 in support of the IP Office branch deployment are broken down into two main categories:
- Avaya Aura® System Manager and Central Management requirements:
- Avaya Aura® Centralized Applications, Services and Solutions:

Following is a brief description of the key new features, grouped within their respective category.

5.3.1 Avaya Aura® System Manager and Central Management Requirements

These requirements include enhancements to the Aura® System Manager to strengthen the ability to centrally manage large scalable branch solutions. The goal of the features and functions is to improve and simplify the administrative practices and operational workflows thereby reducing the total cost of ownership for our customers and partners.

The Avaya Aura® System Manager (SMGR) improvements include the following:
- Administrative support for the UCM and Application Server when IP Office is deployed as a branch, which includes the support for backup, restore and upgrade of the UCM and IP Office Application Server
- The ability to administer, create, edit and delete Voicemail Pro Call-flows and system preferences
- The integration of the IP Office web manager to enable user management and the management of end point templates
- The ability to backup and restore multiple versions of an IP Office configuration on a remote server
- Download a System Configuration onto an Administrator's local machine

1. Administrative Support for the UCM and Application Server:

SMGR will support the administration of the UCM and Application server. It will support up to 2000 UCM or Application servers as a part of the IP Office branch solution.

SMGR will support Discovery, Backup/Restore, Upgrade, Alarms as well as the ability to support the management of Voicemail Pro running on the UCM and Application Server. SMGR will also support the configuration of the system and security parameters of the Shell IP Office that is running on UCM and Application Server.

The following describe a number of the pre-requisites in enabling the SMGR administrative functions:

- **Initial Configuration Utility for Application Server/UCM**
  Before adding the Application Server or UCM under System Manger administration, the administrator needs to run the ICU on the device. The administrator also needs to configure the IP500 V2 Centralized Management to be the System Manager IP Address. The administrator needs to enable the SNMP configuration so that it can be discovered by the SMGR. The Trap Community also needs to be enabled so that SMGR can receive any traps from the device. SCEP is also required to be configured to enable and support a secure environment within an SMGR domain.

- **Automated discovery of UCM and Application Server**
  The UCM and Application server can be integrated with SMGR by creating a discovery profile and running a network discovery. Note that the SNMP V1 protocol is used for the discovery.

- **Manual Addition of UCM or Application Server**
  Alternatively the UCM and Application server can be integrated with System Manager manually by being added through the Inventory function. In this case the Administrator needs to provide the specific details of the device such as the IP Address, Device Type, Device Version and SNMP Profile.

Once the UCM and Application Server device has been registered with SMGR then the following functions can be performed:

- **Synchronization of the UCM and Application Server System Configuration with System Manager**

- **Editing of the UCM and Application Server System Configuration**
  Perform any of the following functions: View, Edit, Download of the System Configuration data. Note that the IP Office Manager is launched by SMGR as the editor. It then provides access to the above commands to manage the system configuration data.

- **Support of UCM and Application Server Template**
  Support for provisioning a Server Template configuration that was previously created offline. The template can then be applied to one or to many devices.

- **File transfer of UCM and Application Server Custom Prompts and other files.**
  SMGR can transfer Custom Prompts for Voicemail Pro in a predefined location and then invoke the "Make Live" service on Voicemail Pro. SMGR also supports File Transfer for other types of files to the UCM and Application server.

2. Backup and Restore of the UCM and Application Server

The SMGR supports the ability to create multiple backup copies of the applications running on the UCM and Application server. The backup copies are made to a remote server and not to the local SMGR server. The number of backup copies on the remote server is restricted to 5 copies per UCM and Application server device. The backup can be performed using one of the following protocols: HTTP/s, FTP, SFTP and SCP. The Administrator has the option to select the following applications and sets of data to be backed up:
- Voicemail Pro
  - Voicemail Pro Configuration
  - Messages and recordings
  - Voicemail Pro full

- One-X Portal
    - Configuration
- Contact Recorder

3. Upgrade of the UCM and IP Office Application Server

The SMGR supports the ability to upgrade the UCM and Application Server using the Software Management command, in a similar fashion to the IP Office IP IP500 V2. Note that IP Office R9.1 is the first release that supports the remote upgrade of the UCM such that any releases prior to IP Office R9.1 will require the local UCM to be upgraded to IP Office R9.1 via its local USB port.

In support of the upgrade, the UCM and IP Office Application Server software packages need to be available on the PLDS website and once accessed, downloaded to a remote server in readiness for an upgrade. The Administrator has the ability to schedule or immediately execute an upgrade. On initiation of the upgrade, the Shell IP Office will extract and download the upgrade packages from the remote server and perform the upgrade.

4. Ability to administer, create, edit and delete Voicemail Pro Call-flows and system preferences

SMGR supports the ability to perform create, modify and delete operations on a Voicemail Pro system. The SMGR utilizes the Voicemail Pro Thick client as the editor to perform the required changes to the Voicemail Pro Call Flows. The SMGR also supports the ability to install the Voicemail Pro client on an Administrator's PC if the appropriate version is not available. The Administrator is also able to save a Call Flow of the device and create a template that can then be downloaded to other Voicemail Pro systems. In summary the following capabilities can be supported:

Voicemail Pro Callflow Template Management
- A user can add, view, edit, and duplicate a Voicemail Pro Callflow Template.
- A user can apply a single template to multiple devices.
- The Voicemail Pro thick client will be launched as the editor.
- A user is able to save a Voicemail Pro Callflow as a template within System Manager.

Voicemail Pro System Preferences Management
- A user can view and edit the System Preferences of a Voicemail Pro Device.
- In support of the view and edit operations the IP Office web manager is launched as the editor.
- A user has the ability to immediately edit or schedule the edit operation for a later day/time.
- A user is able to save Voicemail Pro System Preferences as template within System Manager.

5. Integration of IP Office web manager in support of user and endpoint template management

The SMGR user management model supported for IP Office releases prior to R9.1 required the IP Office Manager (thick client) to be invoked through a Java applet. This required the Administrator's client machine to have installed the IP Office Manager, JRE and the appropriate browser Java plugin.

With IP Office R9.1 and subsequent releases, the support of the User management model has been significantly simplified and it will not require the IP Office manager thick client to be launched. User management is now supported by the integration of the IP Office web manager with SMGR.

6. Backup and Restore of multiple copies of an IP Office configuration on a Remote Server

Prior to R9.1, SMGR only stored one backup copy of an IP Office configuration within the local SMGR Database. This was to help manage the potential scale of an IP Office branch solution.

With IP Office Release 9.1, there is support for multiple backup copies of an IP Office configuration. This will be supported on a remote server. The administrator can either add a new remote server to support multiple

IP Offices or choose to use an existing remote Server. The total number of backup copies to be maintained on a remote server has been restricted to 5 for each IP Office device, which allows the support for a grandfather, father, son backup hierarchy to be administered. The administrator will then have the ability to restore appropriate configuration.

7. Download System Configuration onto an Administrator's local machine

An Administrator will have the ability to download a system configuration onto their local machine from the following devices: the Unified Communications Module and Application Server and IP Office. This provides them with the ability to do offline edits. Note that it is not possible to download a copy of the Security Configuration.

5.3.2 Avaya Aura® Centralized Applications, Services and Solutions

This category is focused on delivering enhancements that enable and extend access for the branch users to feature rich Avaya Aura® centralized applications, services and solutions. The goal is to enrich the branch user experience by:
- Supporting access to centralized applications or services within the core data center, for example Experience Portal (IVR)
- Delivering high degrees of collaboration through seamless interoperability, for example branch/branch/HQ Video

1. SM Line Licensing Changes

Within IP Office Release 9.1, the SM line, which is a term used to describe a customized type of IP Office SIP trunk that is configured on the IP Office to connect to an Avaya Aura® Session
Manager, will be licensed by a unique and separate license called "SM Trunk Channels".

Each call to be supported over this SIP trunk interface requires an instance of this license. The instances are configured as an attribute within License->Remote Server->Reserved Licenses->SM Trunk.

The introduction of this license allows Avaya and our partners to independently price PSTN SIP trunk licenses and the new SM Trunk Channel licenses as well as independently track and trend the deployments and revenues from both license types.

Each system with SM line configured will need to ensure adequate instances of this license are available to support the required call capacity over the trunk interface. Note that the licenses are supported within all deployments of IP Office that support SM line, such as: Essential, Preferred and Server Editions

Note that existing IP Office installations upgrading from IP Office R9.0 will need to configure the new Reserved Licenses SM Trunk Channels field instead of the SIP Trunk Channels field, and will need to configure the new licenses accordingly.

2. Support additional SIP ATA features (Aura® CM Features)

An Analog Terminal Adapter (ATA) user in the IP Office Branch is a Centralized Aura® user whose associated extension is an Analog extension off the IP Office. To support the ATA functionality, IP Office acts as a SIP gateway for the Analog endpoints, registering on their behalf to Avaya Aura® Session Manager. This allows an ATA user to dial Feature Access Codes (FACs) supported by the Avaya Aura® Communication Manager (CM).

In IP Office R9.1, the IP Office ATA user is limited to Call Pickup and basic features such as: make a call, hold and transfer a call.

IP Office R9.1 increases the number of CM features available to the IP Office ATA user within a Centralized Aura® IP Office Branch deployment model.

Note that for CM features that are invoked outside of a call, the end user has to dial the CM FAC. For CM features that are invoked while on a call, the end user has to press the Flash button on the Analog phone and then dial the CM FAC.

The Communication Manager features that have been successfully tested from analog phones of IP Office ATA users are listed and described in the R9.1 version of *Administering Centralized Users for an IP Office™ Platform Enterprise Branch*, document ID 15-604263.

For more information about the CM features, see Avaya Aura Communication Manager Feature Description and Implementation, document number 555-245-205 (https://downloads.avaya.com/css/P8/documents/100171721).
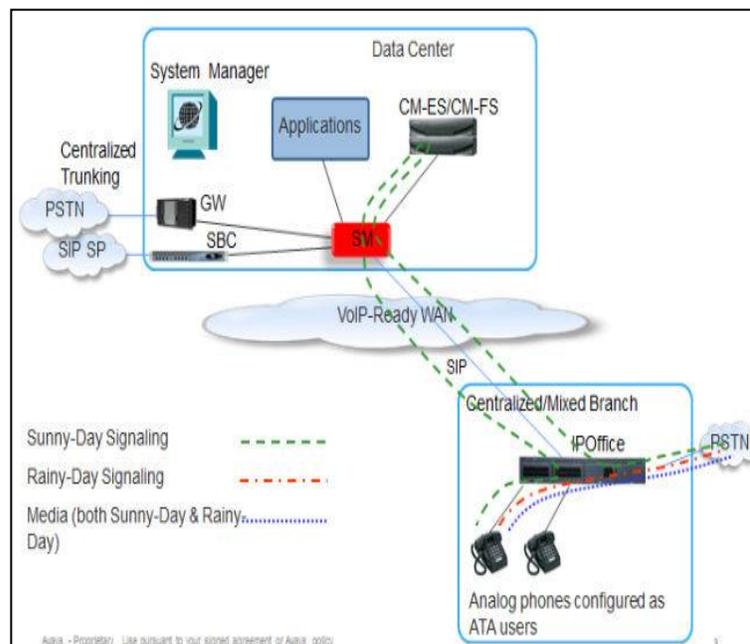
In addition to supporting additional CM features associated within an analog end-point, the ATA will also be able to support an analog Fax end-point.

Configuration of the ATA user in the case of an ATA fax is similar to an ATA phone. The user will appear as a SIP phone to Avaya Aura® Session Manager and Communication Manager. The Default ATA User Template in System Manager can be used also for fax ATA users.

Note that IP Office will continue to support the regular solution with fax machines configured as regular (non-ATA) IP Office users. On an IP Office deployed in a branch, this existing solution allows for fax calls between fax machines in the branch and entities across the SM Line such as fax machines in the headquarters or other enterprise sites. In addition to the regular configuration, IP Office will also support this ATA alternative, which is relevant to the centralized Aura® branch deployments, allowing the customer to configure the fax machine connected to the IP Office as a Centralized ATA user.

The following call flow scenarios are supported, where the branch Fax machine is connected to an analog port on the IP Office and is configured as ATA fax user:

- Fax call from branch to headquarters or another enterprise site (and same in the opposite direction)
    - Signaling flow: Branch Fax --> IP Office --> SM --> CM --> CM gateway --> headquarters fax.
    - Fax media flow: Branch Fax --> IP Office --> CM gateway --> headquarters fax.
    - The fax media between the IP Office and the CM gateway is T.38 or G.711, depending on the configuration of the 'SM Line' on the IP Office and the respective configuration on CM. The recommended configuration is T.38.
- Fax call from branch to PSTN via central PSTN trunk (and same in the opposite direction)
    - Signaling flow: Branch Fax --> IP Office --> SM --> CM --> SM --> Central gateway/SBC --> PSTN fax.
    - Fax media flow: Branch Fax --> IP Office --> Central gateway/SBC --> headquarters fax.
    - As above, the fax media between the IP Office and the Central gateway/SBC is T.38 or G.711, depending on the configuration of the 'SM Line' on the IP Office and the respective configuration on the Central gateway/SBC.
- Fax call from branch to PSTN via local IP Office PSTN trunk (and same in the opposite direction)
    - Signaling flow: Branch Fax --> IP Office --> SM --> CM --> SM --> IP Office --> PSTN trunk --> PSTN fax.
    - Fax media flow: Branch Fax --> IP Office --> PSTN trunk --> PSTN fax.
    - If CM is configured for Initial Direct Media, or else as soon as CM shuffles the call, the fax media should not go across the WAN.

The recommended configuration is "T.38" fax support on the SM Line and the Analog extension "Equipment Classification" should be "Standard Telephone". Alternatively if fax support on the SM Line is configured as G711 or T.38 fallback then the Analog extension "Equipment Classification" may be configured either as "Standard Telephone" or as "Fax machine".

Note that there are no specific IP Office licenses required for invoking the additional CM features above and beyond the IP Office "Centralized Endpoint" license, which was introduced within IP Office R9.0, in support of an ATA user.

3. Voice Quality Monitoring

Monitoring and observing VoIP Quality is important, particularly in deployments across a WAN/Internet, such as with Cloud, Branch and other multi-site scenarios.

In support of monitoring Voice Quality within a VoIP based network, currently IP Office has the ability to generate alarms if certain thresholds for jitter, delay and packet loss are exceeded. In support of delivering a more detailed VoIP monitoring service IP Office R9.1 supports the ability to configure H.323 phones to send RTCP messages to a 3rd party central application collector, instead of sending them to the IP Office as the collector.

For more details on 3rd party collectors please refer to DevConnect and consider solutions that utilize technologies such as Integrated Research's Prognosis application.

www.avaya.com/devconnect

4. India Toll By Pass Prevention

In support of globalization and regulatory compliance for India, IP Office R9.1 implements a feature that ensures any VoIP call cannot be mixed with a PSTN call if the originating call location and the destination call location are in different toll areas. The feature is known as "Toll By Pass Prevention" and is relevant to IP Office Branch deployment models (Distributed, Centralized, Mixed), SCN based IP Office deployments as well as IP Office Server Edition deployments.

Note that for IP Office branch deployment models (i.e. non SCN based) there is a dependency on Avaya Aura® CM Release 6.3.10 Service Pack.

Support for the "Toll By Pass Prevention" feature builds on the existing IP Office Restrict Network Interconnect feature. It is extended to apply to endpoints and not be limited to trunks. It also takes into consideration the endpoint location. This then allows calls to/from IP Phones to connect to local PSTN public trunks only if the IP phone's Location is the same as the System Location.

No extra licenses are required to access the feature enhancements.

5.4   Unified Communications

Unified Communications
IP Office R9.1 will continue to deliver innovative, easy-to-use and easy-to-deploy Unified Communication and Collaboration applications to the Mid-Market customers. With IP Office R9.1, we will evolve the UC application portfolio to be cloud-ready in terms of optimization (to gain higher margins), scale as well as security. We plan to deliver improved and consistent user experience across all the different IP Office UC clients. We will also evolve all the client interfaces to be supported on the latest versions of Microsoft Windows OS, Exchange, Lync, iOS, Android etc.

### 5.4.1   Web Collaboration

Introduction

IP Office R9.1 introduces an integrated web collaboration feature on IP Office. The web collaboration is based on the Avaya Aura Conferencing (AAC) solution, leveraging the best in class capabilities of that platform.

User features include integrated IP Office audio conferencing, desktop/application collaboration, document sharing and white boarding. The application also features a common roster for all collaboration methods with full participant controls, and a common user interface to escalate from an audio call to web collaboration.

Web Collaboration is supported on Preferred Edition, Server Edition, and IP Office Select.

With Server Edition and IP Office Select, web collaboration is part of the base software distribution and runs co-resident with the one-X portal application on the Primary server. It can also run on a standalone one-X server for additional scale. With Preferred Edition, web collaboration runs on an external Application Server.

Web Collaboration is enabled via new Web Collaboration user license for each moderator/host. Prerequisites for Preferred Edition are one Office Worker, Teleworker, or Power User license for each moderator/host. Server Edition and IP Office Select require one Office Worker or Power User license for each moderator/host.
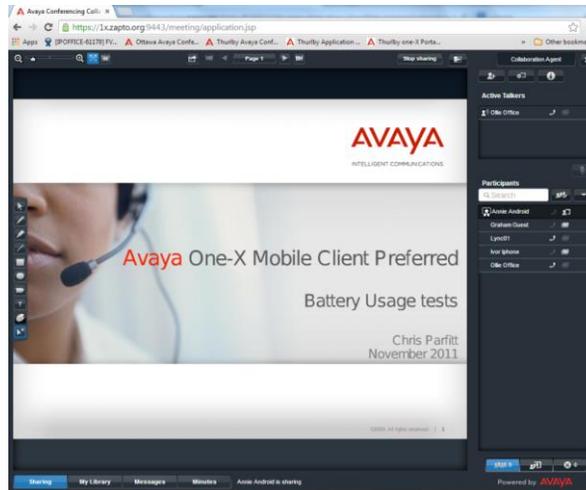
Network bandwidth requirements are between 104 kbps - 251 kbps per user.

IP Office R9.1 browser support includes Internet Explorer 8+, Firefox, Chrome, Safari (Mac)

The IP Office R9.1 web collaboration capacities/performance are aligned to the IP Office audio conference capacity:
- R620 standalone server-512 users, R210/R220 standalone server-128 users
- R620 Primary-128 users, R210/R220 Primary-32 users

Web Collaboration-User Features

In the User one-X Admin Portal under Configuration/Configuration Dial-in, users can enter the specific dial in information such as the DID extension to access the conference. In one-X Portal Admin under Configuration/ Web Conferences the IP Office Administrator can monitor all the live Web Conferences on the system and see a list of the participants for each web collaboration session.

The easiest way for either a Web Collaboration moderator or participant to access a Web Collaboration session is from one of the IP Office Unified Communication (UC) clients.

Avaya Communicator provides a collaboration button that has the benefit of already providing authentication of your username/ password. Note: That when Communicator is used the Collaboration session will open in Internet Explorer.

Avaya Communicator for Windows
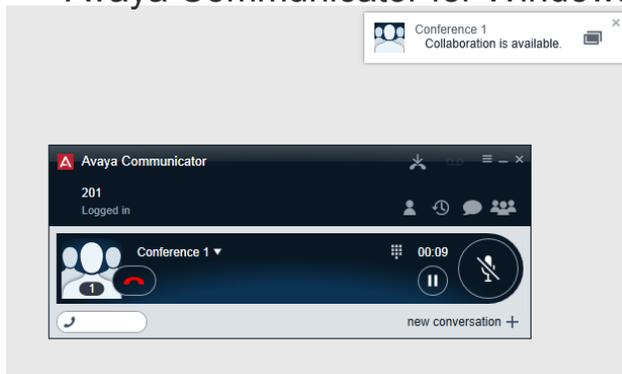
Avaya Communicator for iPad also provides a Collaboration button that allows the moderator to start a collaboration session, or allows a participant to join a collaboration session

The IP Office Outlook Plug-in has been enhanced with integration into web collaboration including a button to open the moderator's web collaboration, links to join contacts to web collaboration Sessions, and a URL in scheduled conferences email.

The one-X Portal client has been enhanced with integration into web collaboration including a button to open the moderator's web collaboration and a button to join contacts to web collaboration sessions.

In addition to web collaboration access from IP Office UC clients, web collaboration can also be accessed from a regular browser with the following URL: **https://webcollab.server.com:9443/meeting/** where: webcollab.server.com = IP address or FQDN of one-X Portal Server.

A Conference Owner can launch web collaboration session and share a document from library, share the entire screen, share an Application Window (Windows Only), or Whiteboard. Text messages can be shared during a session and minutes can be taken for the meeting and exported using reports.

A Conference Owner can perform several additional actions from the Collaboration Agent portion of the Application:
- Add Participant
- Conference Control – Lock/Unlock/End
- Information – Call Information, Attendant, Documentation, & Reports

In the Roster window, the Active Talker is displayed. Participant Roster can be filtered and searched. The Down arrow will display roster control (can also be obtained by right clicking on participant) which includes Mute/unmute, Drop, and Make Moderator.

Sharing
Once the moderator opens the Collaboration window the "Begin Sharing" option is presented.

Sharing options: Document from Library, Entire or Portion of screen, Application window, Whiteboard (example below).

NOTE: For Mac the "Application Window" is missing as not supported in the current release.
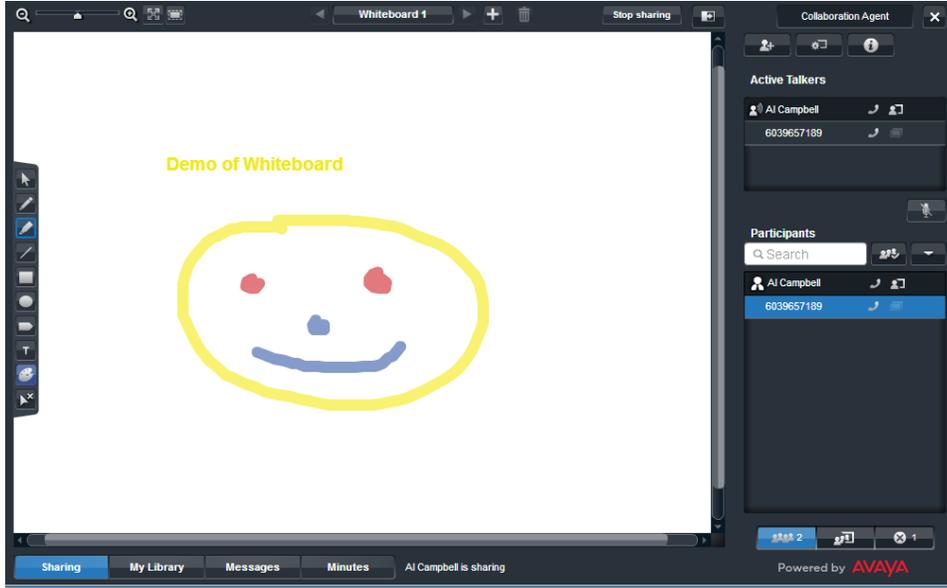
Document Library
Documents can be uploaded and shared as a Conference Owner. When using the Document library this allows participants to view the material at their own pace. There is a limit of 10 documents/user and 6 MB/document. Note: Only files supported for Document sharing library are PDF, JPEG & PNG file types.

Reports
Reports can archive the Meeting Minutes and Chats from a Web Collaboration Session.

AAC Plug-in
This AAC plugin pre-installs files needed for either application or desktop sharing. This helps to eliminate users having to know what Java they have to install.

Web Collaboration Certificates
There are two approaches for Certificates with Web Collaboration:
1. The customer's Primary server will be used to generate one trusted root certificate and individual server certificates for all the customers IP Office servers. The installer will install the individual server certificates on each server. The one trusted root certificate will be distributed to all the customer's PCs.

   OR:

2. An external Certificate Authority is used to generate server certificates for all the customers IP Office servers. The installer will install the individual server certificates on each server. No client PC installs required.

The following table summarizes web collaboration browser support

	Firefox		Chrome		IE		Safari	
	Collab	**Upload**	**Collab**	**Upload**	**Collab**	**Upload**	**Collab**	**Upload**
Hostname + No Trust CA	Yes	No	Yes	Yes	Yes	Yes	Yes	No

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	Firefox		Chrome		IE		Safari	
	Collab	Upload	Collab	Upload	Collab	Upload	Collab	Upload
Hostname + with Trust CA	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
IP Address + No Trust CA	Yes	No	Yes	Yes	Yes	Yes	Yes	No
IP Address + with Trust CA	Yes	No	Yes	Yes	Yes	Yes	Yes	No

Limitations
Below is a summary of some of the limitations of the IP Office R9.1 web collaboration feature:
- In Server Edition, the Web Collaboration License is not centralized and the license must therefore be installed where the user is registered.
- No support for video or computer audio
- Not supported on the UCM Module
- Not supported on the Windows Application server
- No support for Application sharing on Mac OS
- No recording of web collaboration sessions (the associated audio conference can still be recorded through IP Office though)
- Only files supported for Document sharing library are PDF, JPEG & PNG. **Tip:** PowerPoint or other non-supported files can be shared either by saving as a PDF or by sharing the PowerPoint Application or by using desktop sharing

5.4.2 Mobility Enhancements

The one-X Mobile Preferred mobility clients for iOS and Android have been enhanced to provide better security, better user experience and more features. IP Office R9.1 delivers several enhancements to deliver Hosted IP Office. The mobility apps have been updated to enable secure communication protocols with the IP Office PBX and the one-X Portal Application Server.

One-X Mobile Preferred Android and iOS
The one-X Mobile Preferred Android and iOS clients delivered with the IP Office R9.1 will deliver the following new features:

Better Security – Secure signaling and media
- **Certificate Validation ON by default** – The one-X Mobile Preferred client registers and communicates with IP Office over a secure TLS protocol. In IP Office R9.1, certificate validation is ON by default that enables secure signaling over TLS.
    o The mobile client will require a valid server-side certificate on each IP Office server which can be procured either by:
        ▪ Buying the certificate from a Certificate Authority (CA). In this case, the CA certificate needs to be installed only on the server OR
        ▪ Generating a trusted root certificate and identify certificates for each IP Office server. In this case, the generated root certificate will need to be installed on the mobile client.
    o If the mobile app is connecting to a pre-R9.1 server that has just been upgraded to R9.1, the cert validation will remain at OFF to ensure feature continuity across the upgrade.
    o Certificate validation can be disabled by the user via the Settings menu. Please consult documentation for details. If certificate validation is turned off, the app connects over TLS without

performing any certificate validation and is susceptible to man-in-the-middle attacks. We do not recommend disabling certificate validation.

- **SRTP support** - The app will offer best-effort SRTP for every call when SIP is connected using TLS. The app will never offer or accept SRTP when SIP is connecting using TCP. Best-effort SRTP means that the app will offer and accept SRTP but is willing to go down to RTP if the other end does not support SRTP. When a call is established using SRTP, an active call screen shows a Padlock icon to show that the call is secure.

- **Password change** – A mobile user can manually change his mobile app password directly from the app settings menu. Also, a user will automatically be asked to change his password if a force password change is initiated from the IP Office Manager. New password provided must meet password complexity rules configured in IP Office. When the password is successfully changed, the app immediately reconnects using the new password.

Better User Experience
- **Auto fallback from VoIP to mobile mode** – VoIP calls made over WiFi may be adversely affected when the WiFi network is operating in sub-optimal manner or if a mobile worker moves out of the WiFi range. To prevent this, a new option to have fallback from VoIP to mobile call facility has been provided. This setting can be found under Settings > Voice Over IP > VoIP Operation Mode > "Wi-Fi Only With Mobile Fallback". With this mode, when call facility is set to VoIP and WiFi connection drops, the call facility will automatically switch to 'mobile mode' so that the next call attempt will be made using the mobile network instead of VoIP. When the WiFi connectivity resumes, the call facility switches back to VoIP. (Please note that this is not seamless hand-off of calls between VoIP and mobile calls.)

- **Transfer call-to-call facility** - New call transfer option that allows the mobile user to easily move an active call to another call facility such as a desk phone. For e.g. a mobile user on a VoIP call over 4G data network reaches office then he can move that VoIP call to his work desk phone. All moves are implemented as 'blind transfers' and far-end will hear ring back while the transfer is in progress.

- **Add/Delete Roster Contact** - Contacts can now be added to roster from device.

- **Call recording** – The app enhances the call-control features by adding a new record call button to the active call screen to start and stop recording. Call recording can be done for both VoIP and monitored calls. All recordings appear as voicemails in the voicemail inbox.

Feature consistency: The following features have been added to the iOS app for maintaining feature consistency with the Android app.

- **Call Summary** - iOS app now shows call summary after the VoIP call ends. Summary is shown for incoming and outgoing calls as well as conference calls made using the VoIP mode. Summary includes call details such as call duration, name/extension of the contact.

- **Track geo-experience for a group** – Mobile user can view the geo-presence of multiple users by clicking on the Geo-Presence icon at the group level. Geo presence icon for a group is highlighted even if the single contact in the group publishes his/her geo-presence.

- **Support for different number formats** – Mobile users can copy and paste phone numbers from other apps such as Calendar, Mail, Chat, Reminders etc. to the dial pad of the one-X mobile app and can perform call / transfer from the dial pad with pasted numbers. After user presses dial, app performs seamless trimming of special characters such as white spaces and dash characters

Device & OS support:

The Android app with the VoIP feature will be supported on Android versions 4.x and higher. The Android app when used only in the call-back mode (3PCC) i.e., without the VoIP feature will be supported on Android versions 2.1 and above. The following new Android smartphone models will be supported to stay current with market trends:

- Samsung Galaxy S3
- Samsung Galaxy S4
- HTC one-S
- LG Optimus E975

one-X Mobile Preferred on iOS will be supported on the following iOS versions and devices:
iOS versions: 5.x and above
Devices: iPhone versions 5, 5S, 6 and 6Plus and IP Officed Touch

5.4.3   Desktop Integration Enhancements

- **Remote installation and automatic configuration** – An IP Office administrator can now deploy desktop integration clients such as Outlook Plugin and Call Assistant remotely. The administrator can also auto-configure these plugins (providing one-X Portal IP address and port) using either a script or installer. This enhancement will especially help Server Edition deployments for customers with a large number of employees.

- **Scalability Enhancements** – Outlook plugin is enhanced to support the higher scale of IP Office by handling a larger number of directory entries. Paging support and an enhanced search experience is available for easier navigation of the directory.

- **Security** – Outlook Plugin now allows for secure communication with the one-X Portal Server. In addition, other security features such as password change, password complexity and account locked

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notifications have been added in this release. With these security features, the Outlook plugin can now be securely deployed in hosted IP Office deployments.

- **Simultaneous Mode support for clients** – Desktop clients such as one-X Portal thin client, Outlook plugin, Salesforce plugin and Call Assistant can now perform call control with Avaya Communicator 2.0 Windows soft phone running in a simultaneous mode. Call control features such as make, hold, answer, pause, resume, and record call are supported from the desktop client interfaces.

- **User Experience Enhancements** – Outlook plugin user experience has been enhanced to meet several customer requested features such as sound and desktop notifications for incoming Instant Messages/ calls and ability to instantly load the Outlook plugin on startup.
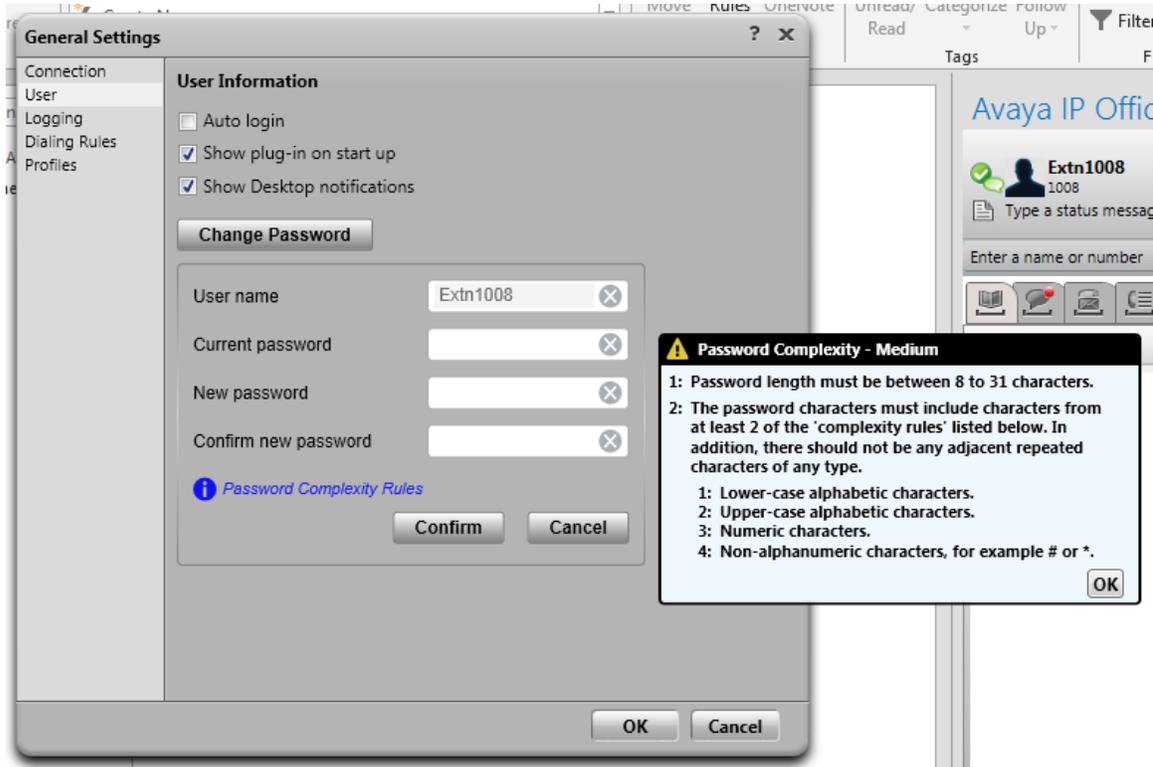
- Accessibility Enhancements - Call Assistant is enhanced to provide additional call accessibility features such as blind transfer, ad-hoc conference, setting the DND mode and call logs.

5.4.4 one-X Portal Enhancements

Conference Scheduling
one-X Portal provides a new gadget that allows users to schedule conference calls as well as get a calendar or list view of all the scheduled conferences/meetings.

A one-X Portal user can schedule a conference using the Conference Scheduling gadget by providing information such as conference participants, subject and description, bridge info, participant code and the start and end times. Setting the meeting recurrence, reporting are some of the other options available while scheduling a conference. If the user is entitled to web conferencing and wants to use a web conference for this meeting, then the web conference URL can also be provided while scheduling the conference. The conference bridge number, host code, participant code and the web conference URL (if entitled) are pre-populated while scheduling the conference. These fields are editable if a user needs to change them.
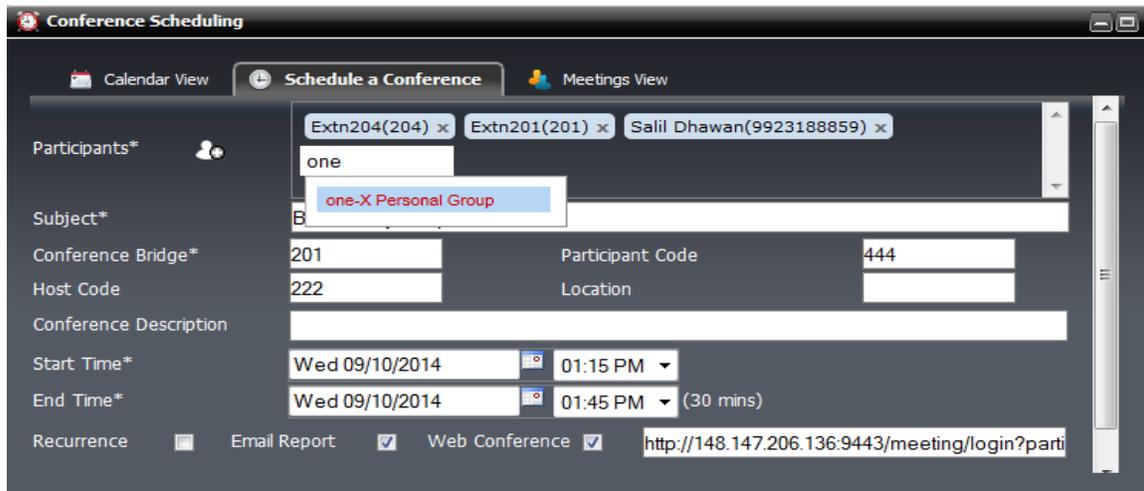
As can be seen from the above figure, the participant list can contain users configured on IP Office, personal groups configured in one-X Portal or external participants as well.

Any conferences scheduled through the gadget can be viewed either in a Calendar View or in a Meeting view. The calendar view shows the scheduled meetings in a weekly/monthly calendar whereas the meeting view shows the conferences as a list of conferences.

An important feature of the conference scheduling feature is **port reservation**. When a user schedules a conference, one-X Portal checks if there are enough ports available to handle the audio conference. If there are enough ports available then the conference will be scheduled successfully. If enough ports are not available then the user is alerted with a "Resource Unavailable" message. The user may choose to still go ahead and schedule the conference or re-schedule the conference to a different time where enough ports may be available.

The conference scheduling feature also has email support. The IP Office administrator can configure the SMTP information via the one-X Portal Admin console. This will enable one-X Portal to email new, modified or scheduled conferences to the participants. It will also provide conference reports to the conference moderator after the conference.

The feature also enables automatic report creation at the end of the conference. If "Email Report" option is marked for a scheduled conference, then the moderator of the conference gets a report with details such as number of participants, start time and end time, join time and drop time for each of the participants. The figure below shows an example of the conference report.

Conference scheduling feature is also available within the Outlook plugin interface.

NOTE: *Conference scheduling feature requires a Power User license.*

Bridge Details	243	Start Time	3/26/2014 17:30	EndTime	3/26/2014 18:00
Participants of Conference#	4	Time Zone	GMT+5:30	Duration	30(Minutes)
				Duration(Minutes)	
Participant name	Device	Join Time	Drop Time		
Prithviraj Singh	203	3/26/2014 17:25	3/26/2014 17:25	1	
		3/26/2014 17:25	3/26/2014 17:27	2	
		3/26/2014 17:28	3/26/2014 17:28	1	
Asha Patil	204	3/26/2014 17:24	3/26/2014 17:28	4	
		3/26/2014 17:28	3/26/2014 17:28	1	
Sandeep	210	3/26/2014 17:23	3/26/2014 17:28	5	
Salil Dhwan	205	3/26/2014 17:26	3/26/2014 17:26	1	

For Linux based IP Office deployments with Voicemail Pro, a default voicemail call flow to join a user's personal conference and scheduled conference will be created by one-X Portal on startup. This call flow will also prompt a participant to enter the pin/passcode before joining a conference. Default call flow provisioning helps save time for Administrators.

Web-Conference Integration
One-X Portal thin client provides integration with Web Conferencing that allows a user to easily launch his/her own web conference as a moderator or join another user's web conference as a participant. The one-click hosting or joining of web conference with single sign-on provides ease of use and improved productivity for one-X Portal users.
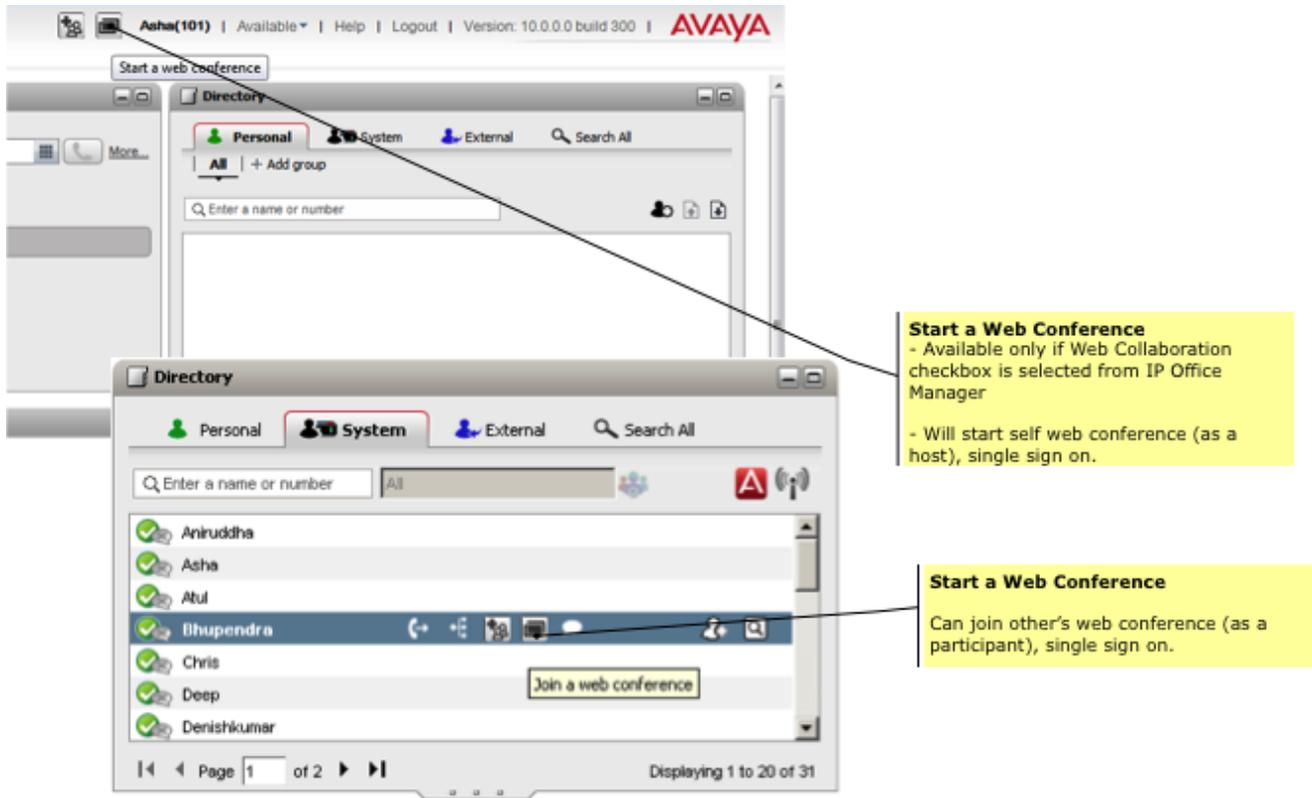
Hunt-Group Queue gadgets

One-X Portal provides a Hunt-group queue gadget that enables a user to configure the hunt groups to monitor and pick up ANY call from queue. Monitored groups are displayed in this gadget and the one-X user can filter the calls based on different criteria (longest waiting time, priority, caller name or subject). The gadget shows the number of calls in each queue and longest waiting time. Maximizing the gadget displays all the calls in each queue and a user can click on a specific call to pick up the call.
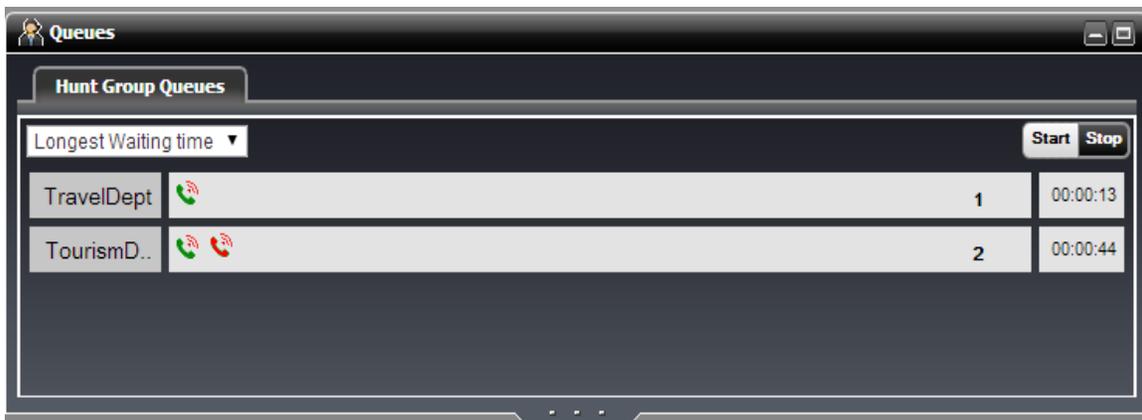
Scalability
One-X Portal deployed in an IP Office Select deployment now scales to support 150 nodes, 2500 users (3000 users with 9.1.2.0 FP), 2 * 256 conference and 500 hunt groups.

Improved Security
IP Office Administrator can now control if one-X Portal can be accessed over a secure protocol only. Hosted IP Office deployments are recommended to use this setting to provide a "secure only" access. The other option is to allow users to access the thin client over a secure and unsecure protocol (HTTP/HTTPS).

One-X Portal thin client provides users to change their user passwords as well as voicemail passcodes. All passwords/passcodes now need to meet the complexity settings configured by the Administrator via the IP Office Manager.

5.4.5 IP Office Video Softphone Update

IP Office Video Softphone for Apple Macintosh has been updated in this release. The new version can be used with the latest Mac versions – Mac OS 10.8 and 10.9. It will not be backwards compatible with prior versions of the Mac OS. The IP Office Video Softphone Mac has the following changes:

Licensing
- IP Office Video Softphone Mac can now be purchased with a new license called IP Office Video Softphone Mac.
- Existing customers can use the older versions on their respective supported operating systems after IP Office upgrade to R9.1. However, Avaya will not distribute the older versions of the Mac and Windows softphone.
- Existing customers that used the IP Office Video Softphone Mac (through purchase of Teleworker or Power User or Mobile Worker Upgrade or Power User upgrade licenses) are also entitled to use the new version of the Mac client after the upgrade to IP Office R9.1.
- Both new and existing customers using the new Mac softphone must use it on supported Mac OS versions 10.8 or 10.9.

User Experience
- Improved experience via multiple tabs for calls, contacts and logs.
- Using the Phone tab, a user can type a phone number or contact name and then make a phone/ video call.

- Using the Contact tab, a user can type a name in the search field to find matching contacts, then right-click for the possible actions (audio/ video call, Instant Message).
- One Messages window where all your instant messages can be seen.
- Mac client will provide support for the following languages: English, Spanish, French and Russian.
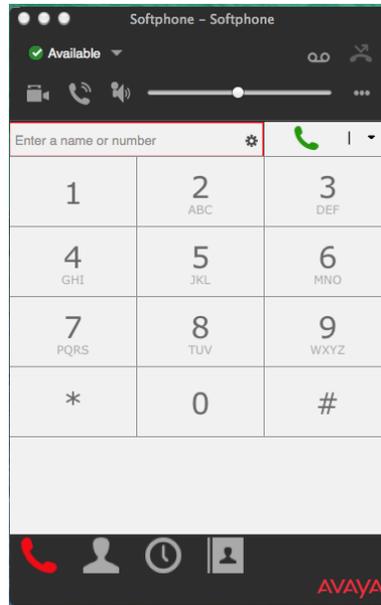
NOTE: *IP Office Video Softphone for Windows is End of Life with IP Office R9.1. Any existing users of IP Office Video Softphone Windows must use Avaya Communicator 2.0.1 for Windows going forward.*

5.4.6   Soft Console Enhancements

The Soft Console client used by Receptionists has been enhanced to provide Instant Messaging support as well as interworking and better security in a cloud environment. The following new features have been added to Soft Console interface in IP Office R9.1:

1. **WebSocket communication** - Soft Console now communicates with IP Office and one-X Portal using WebSockets. The WebSocket protocol allows for a bi-directional communication between the client and a server. As the communication is done over port 80 (same port as used by HTTP) there are no issues with respect to traversing firewalls. Soft Console can also be configured to use a secure WebSocket communication to provide security especially in a hosted IP Office environment.

2. **Instant Messaging support** – Soft Console has been enhanced to add support for Instant Messaging using the IM service provided in the one-X Portal. If a one-X Portal is deployed in your environment, you can configure the Soft Console with the one-X Portal IP address and port to use Instant Messaging features. Instant Messaging feature within Soft Console greatly enhances the productivity of a Receptionist user.
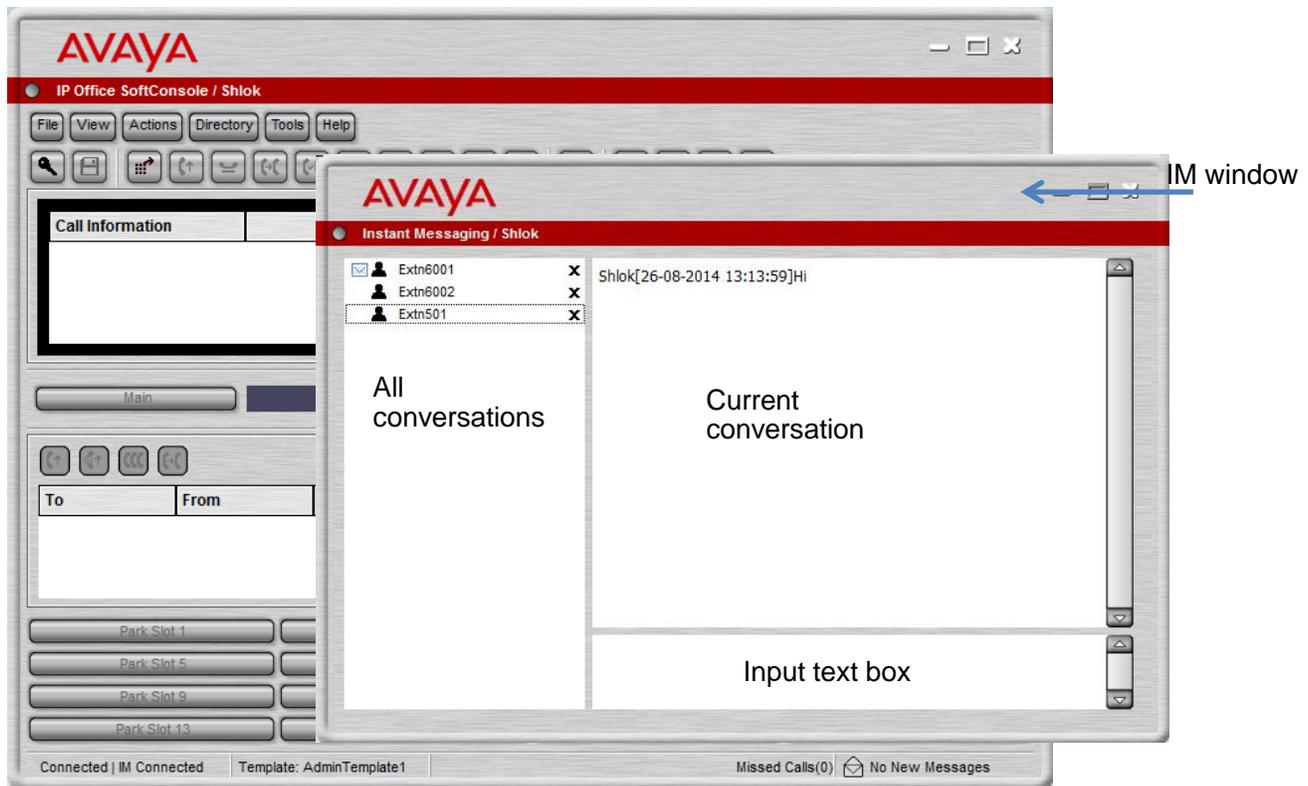
5.4.7 Avaya Communicator

From Release 2.0 onwards, the Avaya Flare® Experience product has been rebranded as Avaya Communicator for both Windows and iPad operating systems. No new licenses are needed to use Avaya Communicator, and IP office Video Softphone for Windows will not work with release 9.1. Existing users with Avaya Softphone license will be able to use Telephony-Only features with Avaya Communicator and Office/Power users will be able to use the full Avaya Communicator feature set.

All Avaya Flare® Experience users must use the Avaya Communicator clients going forward. This will allow users to continue to benefit from Voice, point-to-point video and IM/Presence with new features listed below.

Avaya Communicator Windows
The following new features have been added to Avaya Communicator Windows version 2.0.3:

- Compact user experience – Avaya Communicator Windows will run in a compact form occupying less real estate on your Windows machine. This is the default user-experience and is shown below.
- TLS/SRTP Support - Avaya Communicator now supports secure signaling over TLS and secure media exchange over SRTP. Secure signaling and media exchange enable Avaya Communicator Windows to be used as a softphone in Cloud environments.
- Contact filtering – a user can filter contacts according to a certain criteria and choose to view only System contacts or local contacts or personal contacts.
- Web Conferencing integration – You can open a Web Conference session from within the softphone.
- Unsupervised Transfer – Avaya Communicator now supports unsupervised transfer feature.
- Auto-Answer Support – A user can set auto-answer to on which will automatically answer incoming calls. This is useful for Agent user personas.
- Simultaneous Mode – Call-control interfaces like one-X Portal thin client, Outlook/Salesforce plugin can now initiate and control calls using the Avaya Communicator softphone.

- Password Change – user can change his password from within the client. Any password change must meet the password complexity rules set by the IP Office Manager.
- Account Code – users can now set account codes for outgoing and incoming calls.

Compact View of Avaya Communicator
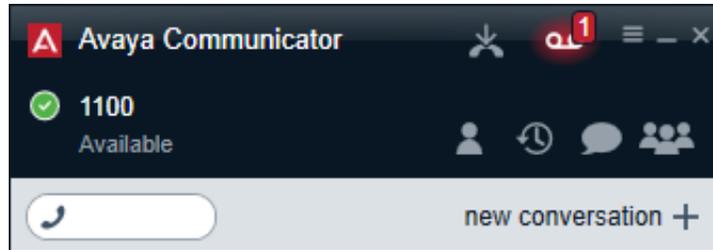
Full View of Avaya Communicator
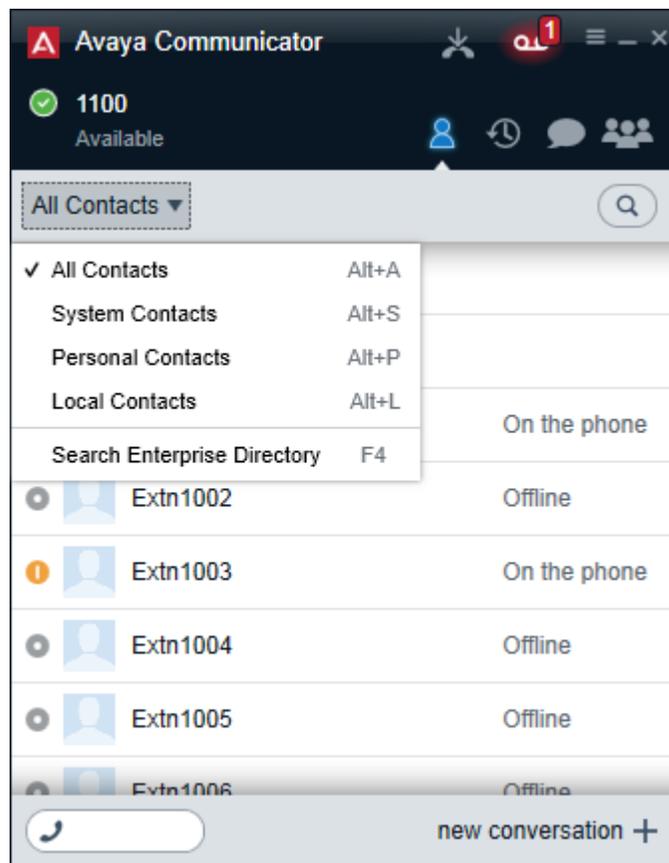
Avaya Communicator iPad
The following new features have been added to Avaya Communicator iPad version 2.0:
- User Experience enhancements – user experience now complies with the new "flat" design of iOS 7
- TLS/SRTP Support - Avaya Communicator now supports secure signaling over TLS and secure media exchange over SRTP. Secure signaling and media exchange enable Avaya Communicator iPad to be used as a softphone in Cloud environments.

- Web Conferencing integration – You can open a Web Conference session from within Avaya Communicator iPad to share whiteboard or documents. Note that sharing option is only enabled for the moderator.
- Password Change – user can change his password from within the client. Any password change must meet the password complexity rules set by the IP Office Manager.
- Auto-Answer Support – A user can set auto-answer to on which will allow the softphone to automatically answer incoming calls. This is useful for Agent user personas. If auto-answer is disabled (default) all incoming calls prompt the user to Answer/ Ignore the call (except if the Answer-mode =auto in the Invite Request).
- Unsupervised Transfer – Avaya Communicator now supports unsupervised transfer feature.
- Auto configure services – Auto configure Avaya Communicator iPad by using a configuration profile that has been hosted on a web server using either Email Address or a URL
- Bluetooth & Headset Device Support and Selection – Avaya Communicator iPad now allows a user to select the audio interface that must be used during a call – iPad Mic and Speaker, Wired Headset, Bluetooth audio device (Headset in most cases). The user also has an option to change between the different audio interfaces.
- System Directory Search - New option is provided under Contact fan to search all the contacts in the IP Office system directory.
- Add/Delete to Team (XMPP Group) - XMPP Group users will now be displayed as part of Team Contacts and users can be added or deleted to the team/personal groups.
- User can search the System Directory and add to Team/Personal contact.
- Interoperability with Radvision – Avaya Communicator can establish a Point-to-Point video call with Radvision XT5000.

Avaya Communicator iPad will be supported on the following:
Devices: iPad2, iPad3, iPad4, iPad Mini (with and without retina display), iPad Air both Wi-Fi and 3G models.
iOS versions: 6.1.x, 7.0.x, 7.1.x, 8.0.x

Please note that Avaya Communicator for iPad is NOT supported on iOS 6.0.x.
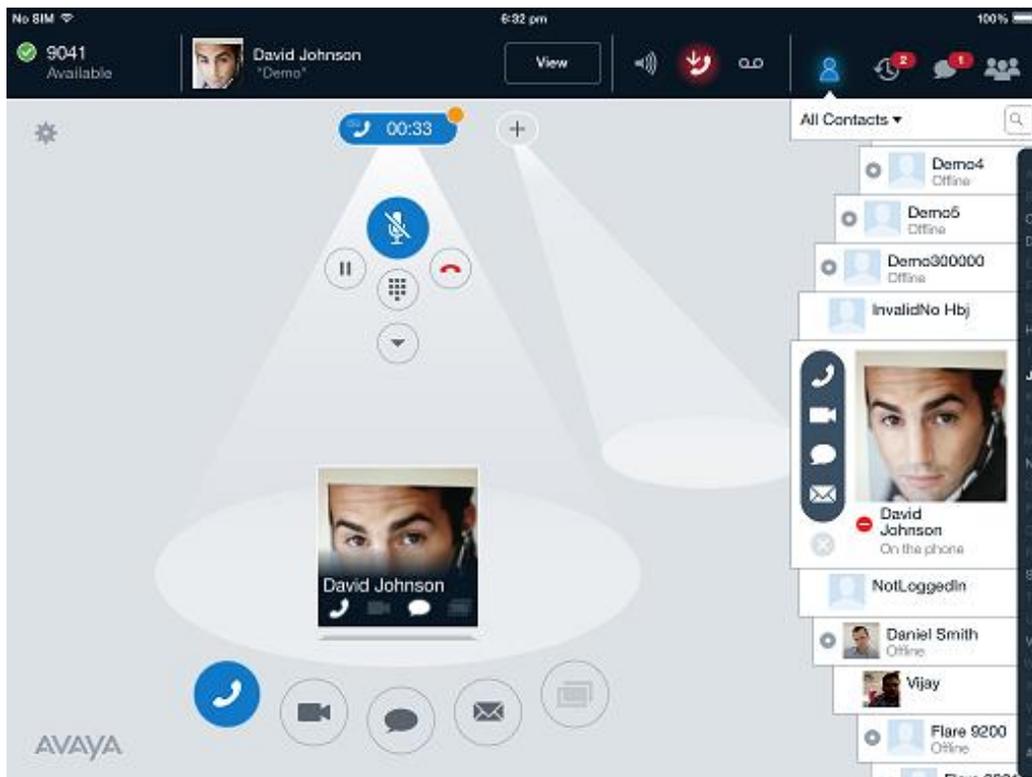
5.5   Key Features

The IP Office Key Features category is a broad theme that includes innovation important to driving growth in all the addressed market segments. Many of the feature developments come directly from input received from Avaya business partners who depend on IP Office remaining a market leader so that they can sustain growth of their businesses.

The sections to follow summarize the objectives and drivers of the feature requests across a range of product functionality.

5.5.1   New Unified Communications Module (UCM V2) Next Generation Processor for Voicemail Pro and one-X Portal

NOTE: *The availability of the UCM V2 will lag the release of the R9.1 software. Target for UCM V2s shipped to distributors is June. Check with distribution prior to ordering the unit. The UCM (version 1 700501442) will be available in the interim.*

With Release 9.1, the current UCM module will be replace with UCM version 2. The module will be shipped as blank unit without software from the factory. Key elements for the UCM V2:

- Next generation integrated processor
- Faster USB for install and upgrade
- Ensures software level is consistent with control unit
    - Unit is shipped blank. Factory SW load is often out of date with control unit. Field installed image and software ensures the current SW load/Service pack is installed on the UCMV2, reducing error
- Decouples Preferred Edition to allow for sparing and easy migration
    - Preferred Edition license is ordered separately
    - Easier to expand to an external server while keeping Preferred license intact without needing for UCM to reside in the control unit
    - Reduces cost of maintenance sparing
- Improved LED states for start- up, diagnostics and upgrade status
- ESD shield no longer required
- Pricing will be reduced on the UCM V2 to be consistent with cost of the hardware unit and Preferred license bundle as provided with the version 1 UCM.

5.5.2   Answer Supervision Analog/ATM4 Trunks

Analog trunks provided with the ATM4U V2 and Combination Card ATM V2 will provide mobile twinning support for answer and disconnect supervision.
- The "ATM4U-V2 Voice Activity Detector (VAD)" is an enhancement development that provides an answer supervision signal on ATM4U-V2 lines.
- Answer supervision signal has been added mainly to support Mobile Twining over analog trunks however it can be also used for other features such as accurate SMDR data.
- A Manager option to Enable/Disable VAD has been added.
- By default this functionality will be disabled.

5.5.3   Enable SIP 3rd party endpoints to be member of Page Groups

External speakers or amplifiers may be integrated with IP Office telephone page zones. This feature will enable IP Office to be the core of a paging solution displacing external paging solutions. An example would be schools where a page may be sent to several classroom phones simultaneously ….

5.5.4   Location Based Time Zone

This feature provides the ability to set the correct time in a multi-site environment and ability to set different time zones for groups of extensions based on location.
- New configuration item against the location page – Time Settings:
  - o Time Zone
  - o Local Time Offset from UTC
  - o Automatic DST
  - o Clock Forward/Back settings
- Supported phones:
  - o 96xx
  - o 16xx
  - o 11xx/12xx
  - o D100
  - o E129

5.5.5   FSK MWI Support to Analog Extensions

The capability for Analog ports to support Bellcore FSK MWI has been added alongside existing mechanism such as Voltage driven and Line Reversal methods.
The "Analogue Extensions FSK Message Waiting Indication" provides a mechanism to switch On/Off FSK Message Waiting LED or LCD Icon on Phones that are capable of supporting this type of signal.
Bellcore Standard only will be supported.

5.5.6   Speed Dial/Directory to Override Barring

Allows calls to external numbers present in the Public Directory (System Directory, LDAP, HTTP) even though a barred shortcode has been matched against dialed digits. Applies to numbers dialed from Directory, redial, Call log, Button programming, shortcodes and manually entered.

5.5.7   Set MWI on SIP Extension from Short Codes or CTI

SIP sets can now respond to short codes or TAPI commands instructing them to turn on the Message Waiting Indicator (MWI). This is particular useful in situations where 3rd party applications are working in conjunction with the IP Office. In earlier releases this was only supported on H.323 sets.

5.5.8   DECT R4 Resiliency

Supported on all DECT R4 handsets, IP base stations (compact and regular) and IP DECT gateways, this new feature provides enhanced resiliency for businesses and organizations depending on their mobile DECT solution for critical communications

The two diagrams below illustrate how resiliency can be achieved with the IP DECT and with the IP Office.

Resiliency with IP DECT with Standby (two mirrors):

Setup with IP DECT with Standby (Two Mirrors):
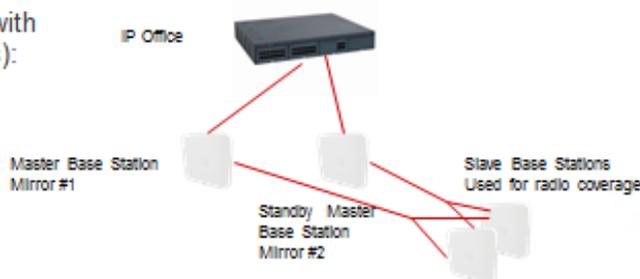
Resiliency with IP Office and DECT:

Setup with IP DECT and Redundant IP Office:
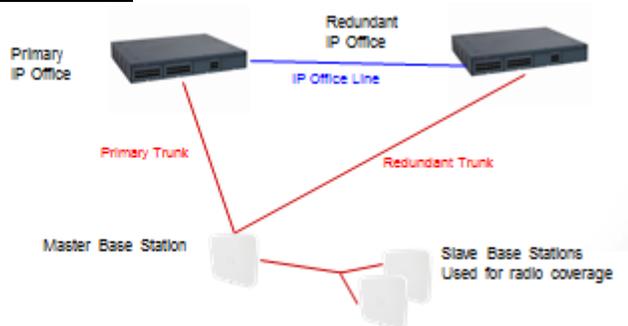
5.5.9 Localization

Philippines
Locale specific to Philippines added.

Czech
Czech locale and localization of end-user applications (without documentation) will be supported: one-X portal, desktop clients, one-X Mobile.

Korean
- one-X Portal (user part) + plug-ins + IMBot
- one-X Mobile for Android and iPhone
- 16xx phones
- 96xx phones
- Only user interface, no documentation is requested.
- Platforms to support UI languages: IP500 V2 (Standard mode), Server Edition (Linux).

Japan
First phase of Japan support with R9.1 will be English locale only and agreed to hardware components certified Giteki type approved. one-X Mobile will be supported. Software supporting Japan locale will be exposed with follow on service/language pack for R9.1.
NOTE: *Available under NDA for limited Beta program only.*

5.5.10 SIP Service Provider Trunk Enhancements

Service Providers continue to broaden their SIP trunk offerings and SME customers are increasingly evaluating and adopting SIP trunks. IP Office R9.1 continues to respond to these market trends, with several new SIP trunk capabilities.

The Avaya DevConnect Program provides compliance testing of SIP trunks, from Service Providers around the globe, against IP Office and other Avaya solutions. DevConnect is available to validate the operation of the IP Office R9.1 solution, with Service Provider SIP trunk offerings.

For more information about Avaya's DevConnect program and compliance testing, please refer to the links below.

www.avaya.com/devconnect

http://www.devconnectprogram.com/site/global/compliance_testing/index.gsp

The R9.1 SIP trunk enhancements are focused on simplifying installation and improving the maintenance experience while providing many new capabilities that address a wider set of implementation scenarios.

Simplifying Installation and Improving the Maintenance Experience

Simplified SIP Line Configuration
As the deployment of SIP trunks continues to grow, there is an increasing need to accommodate requirements of specific Service Providers. In this release, configuration of SIP trunks on IP Office is simplified for the majority of implementation scenarios, while at the same time, providing enhanced flexibility to configure more uncommon parameters.

The SIP line tab has been organized in more intuitive groupings and items that are more uncommon have been moved to other tabs.
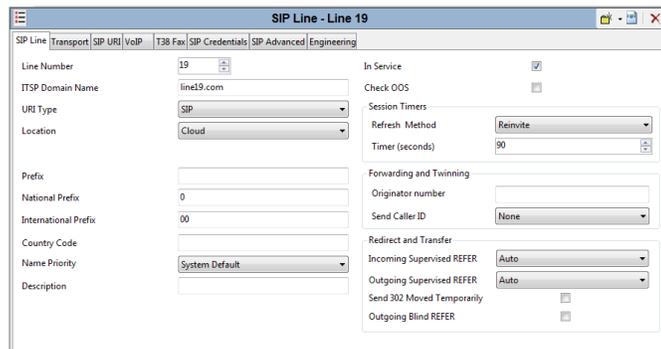
A new advanced tab has been added to support less commonly used existing configuration items and market specific features. Many of these market specific features were previously only available through the use of No User Source Numbers (NUSN's). Some of these features may not be suitable for all implementations and testing is always recommended to verify compatibility.
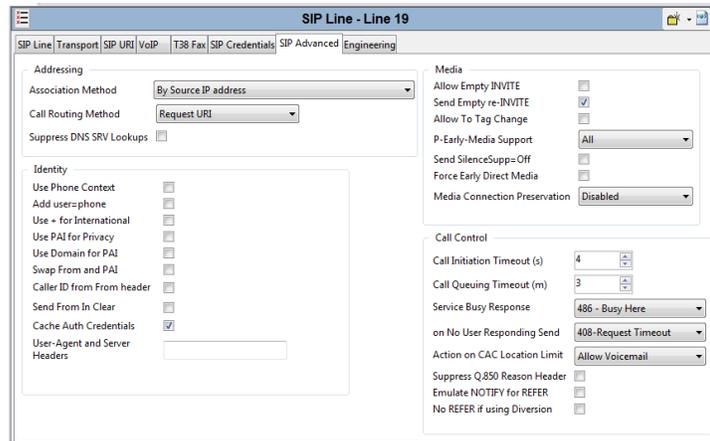
Configuration items that are not generally suitable for production networks can now be configured in a new SIP line engineering tab. This screen utilizes SIP Line Custom Strings (SLICS) for per line adjustments previously handled with NUSN's. A typical use for these codes is for Avaya support to troubleshoot field issues.
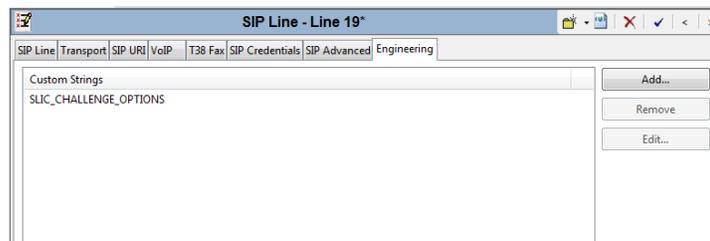
Templates

SIP Trunk Templates provide a mechanism to create SIP Trunks with a pre-defined configuration, specific to a given network, in order to simplify volume deployments. Once a SIP Trunk has been compliance tested with a Service Provider, a template is created that can be used to create new trunks with that provider's network. The feature was originally developed in R7.0 but was only enabled via a registry key setting

Enhancements in R9.1 include:
- Ability to set the template creation functionality in a Manager menu rather than via a registry key.
- The ability to create a new SIP line from a template is now defaulted to enable but is configurable.
- Supporting the use of templates created for release R8.1 or R9.0, defaulting any missing fields.
- Making template creation more intuitive and consistent by making the Service Provider Domain Name mandatory, removing the Country field and better grouping of template menu options

Reduced and Managed Service Disruption

As the IP Office solution grows in size, it is increasingly important to reduce and better manage any service disruption brought about by SIP trunk configuration changes.

In R9.1 SIP trunk configuration changes will no longer require a system restart. There are two categories of merge behaviors:
- Merge with service disruption which temporarily takes the SIP trunk out of service in order to apply the change while not impacting any other system services
- Merge with no service disruption where changes are applied at the earliest available opportunity.

To assist system administrator's ability to minimize the impact to users during maintenance operations, SIP trunks can be gracefully taken out of service using the System Status Application (SSA) in R9.1.

New SIP Trunk Capabilities

Dynamic Transport Discovery
Enables the dynamic discovery of the SIP Line transport type (TLS, TCP or UDP) via DNS NameAuthorityPointer (NAPTR) query.

Service Provider Redirect and Transfer
Supports a specific requirement from certain service providers that want IP Office to perform redirection (call that has not yet been connected) or blind transfer (connected call with no consultation leg), to a destination within their own network.

Display Information
In the SIP URI table the PAI field configuration includes the option to use a wildcard value. Support for the PAI header has been added to the re-INVITE and UPDATE messages. To further simplify configuration and operation, the "Swap From and PAI" and "Send From in Clear" functionalities have been separated. On SIP trunks with "Send from the Clear" enabled, upgrading to R9.1 enables "Swap From And PAI" to preserver the expected functionality.

Differentiated Transfer and Forward
Some Service Providers do not accept a REFER to complete a forwarded call This feature adds a configuration option which, when set, causes IP Office not to use REFER to complete a call forwarded with Diversion header, but to continue to use REFER for call transfer.

Silence Suppression Attribute
Some networks assume that unless it is explicitly stated, endpoints will detect silence and inject side-tone or comfort noise to assure the user that the connection is still open. This new functionality provides the ability to include the silenceSupp=off attribute (RFC3108) in SDP negotiation to avoid cases where Service Providers default to 'On' when the attribute is absent.

Outbound Call Load Balancing
Outbound calls can now be shared in a round robin fashion between SIP URI's that share the same Outgoing Group ID, if the targeting is performed via short code, as if they were targeted via ARS. Load balancing via weighted proxy addresses is not affected by this change.

5.5.11 New Diagnostic Capabilities

Avaya Access Security Gateway (ASG):
IP Office R9.1 introduces support for the ASG on Linux servers including: primary servers, secondary servers, expansion systems, application servers, and the Unified Communications Module (UCM). It is not supported on the IP500 V2 system.

The ASG enables secure communication between the IP Office   and a Tools A connect2 service over an SSL/VPN connection for the purpose of running diagnostic/debugging scripts.

The secure link is established in three ways:
- Only encrypted connections are used (ssh links)
- For logging into the system a challenge/response mechanism is used based on secret keys
- A second encryption is provided by the sslvpn interface (this service runs by default on the sslvpn interfaces)

To enable ASG, a unique Authentication File System (AFS) file must be installed on the IP Office system. This file used to activate ASG as part of a new installation or a system upgrade. AFS files can be generated from rfa.avaya.com site for the R9.1+ IP Office release (called 9.x):

This feature does not require a license.

ValidateIP OFFICE SCRIPTs:
ValidateIP OFFICE is a diagnostic script that resides in the Diagnostics & Tools Center on Avaya's support website. It allows a secure remote connection though the ASG and then runs the script on the IP Office linux system. New tests will be added to ValidateIP OFFICE regularly to improve diagnostic testing.

The tool that uses the validateIP OFFICE script is called the Configuration Validation Tool (CVT). This tool is now located in the Diagnostics & Tools Center main page. CVT will leverage ASG to remotely connect and execute the validateIP OFFICE script, when manually initiated from the web or as part of a CVT scheduler job that the customer/BP has set up. Internally for Avaya Associates, CVT will also get auto-executed when SRs are routed to the Avaya support team, and the results transferred back to Avaya along with an SR Note added, pointing the Avaya support engineer to the location of the data. This CVT functionality will also become active once validateIP OFFICE is added as a supported script to the CVT tool.

Training: ASG_TrainingForIP OFFICEL9.1

For more information on these and other diagnostic capabilities, please refer https://support.avaya.com/

5.5.12 Automated On-Boarding and SSL/VPN Related Enhancements

IP Office R9.1 continues to add to the IP Office elements required for both the IPOSS support offer, in addition to expanding the concept of automated on-boarding to partner deployments of the Avaya VPN Gateway (AVG) in their own infrastructure.

IPOSS Enhancements:

• In R9.0, when On-Boarding a IP500 V2 system equipped with a UCM module, the registration is performed on the IP500 V2 and the IP Office inventory file captures the information about the UCM module as part of the process. The SSL/VPN tunnel created between the IP Office and the Avaya support organization is used to access the UCM via Network Address and Port Translation (NAPT) feature. This is still expected to be the primary way that Business Partners will On-Board the IP Office with R9.1. There may be situations where Business Partners would prefer to On-Board the UCM directly and establish a dedicated SSL/VPN tunnel to the UCM. This is now supported in R9.1.

• Updates to the inventory file created as part of the Automated On-Boarding include new hardware material codes introduced in this release, any software material codes required for SSL/VPN connectivity to Avaya support and the identity certificate of the IP Office. This ensures the most accurate installed base information can be extracted from the IP Office.

Partner Automated On-Boarding SDK's:

With the growing use of the AVG solution in the Business Partner infrastructure, Avaya is pleased to announce the availability of two new SDK's. These SDK's allow partners to create a similar, automated On-Boarding experience for their own AVG infrastructure, to that of the On-Boarding process used in the Avaya IPOSS On-Boarding process.

Partners can continue configuring the IP Office SSL/VPN service to their own AVG, as they have with previous releases. The availability of these SDK's provides an opportunity to further simplify and speed up

this configuration process within the organization. The benefits grow as the number of IP Office's requiring remote connectivity grows.

As stated, these two SDK's are designed to simplify the configuration of the IP Office components and certificates, allowing an SSL/VPN instance to connect to the Business Partner's AVG in an automated way. The IP Office can simultaneously support both SSL/VPN services, one to the Avaya support organization and one to the Business Partner's AVG.

Both SDK's are delivered with a "zip" file which contains a JAVA JAR file that can be integrated into existing JAVA Web Servers, a Windows batch file wrapper for command line use of the JAVA onboarding tool, a default of set of files and examples as well as a document explaining how to modify the necessary files and to invoke the provided utilities.

Business Partners may wish to leverage both deployment options, as the solutions that can be developed are complementary in nature. Alternately, they may wish to focus their development on only one of the solutions, in order to reduce their development time and effort.

The SDK's are available through the Avaya DevConnect program. The URL for the DevConnect program is listed below.

www.avaya.com/devconnect

On Boarding SDK:

- This SDK allows Business Partners to create an On-Boarding experience most similar to the Avaya IPOSS On-Boarding process. It does however; require a greater amount of development effort than the Express SDK.
- The diagram below illustrates the solution that the Business Partner could develop by using this SDK.
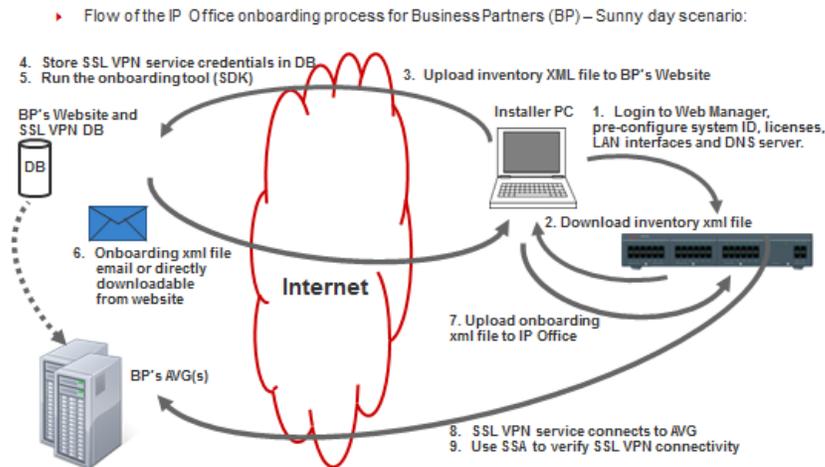
On Boarding Express SDK:

- The Express SDK, allows Business Partners the ability to perform "off line" or "rainy day" On-Boarding from the IP Office to their AVG. This is useful in situations where the installer may not have access to the Internet when deploying the IP Office. It also provides a very fast On-Boarding process.
- This SDK requires less development effort than the On-Boarding SDK.
- The diagram below illustrates the solution that the Business Partner could develop by using this SDK.

On-Boarding Express SDK

- Flow of the IP Office onboarding process for Business Partners (BP) – Off Line or Rainy day scenario:

Installer PC

1. Launch registration tool (SDK)
2. Answer prompts

3. The tool automatically exchanges files with IP Office

Repeat this process for every IP Office install

4. Session files are zipped

6. Bulk process all offline registration zip files and record SSL VPN service accounts – Archive as needed

5. Securely upload or email all on-boarded IP Office zip files or use a shared drive in the Cloud

Internet

SSL VPN DB

DB

BP's AVG

5.5.13 Expanded Communications Accessibility Support

While compliance to Communications Accessibility requirements has traditionally been driven by federal government agencies, other levels of government, as well as multiple other non-government customers are now requesting compliance as part of their standard requirements.

Avaya IP Office offers an extensive portfolio of communication solutions designed to provide equal access to communications for people with disabilities. These solutions enable a business or organization to offer a wider range of jobs to people who have disabilities, as well as to serve the needs of a wider range of customers.

R9.1 delivers in three main areas:

IP Office One-X Portal Call Assistant Accessibility
- Call Assistant accessibility is expanded in R9.1 to work in conjunction with an IP Office telephone. This allows people with visual impairments or people who are blind to interact with the telephone through the use of built-in voice prompts, leveraging the Microsoft speech API, thereby eliminating the need for extra screen reader applications.
- Call Assistant provides, by voice prompts, many pieces of information that are displayed visually by telephones, such as Caller ID, whether there is a voice mail, whether a call is on hold, and whether a call on hold has disconnected. Telephone functions that a blind user may not be able to access conveniently via buttons or soft keys on the telephone, may be accessed via user-specified keys on the user's PC keyboard.

- The new Call Assistant Accessibility Features in R9.1 include:

- o The ability to scroll call logs and announcement on hot keys for Caller ID information when used in Accessibility mode.
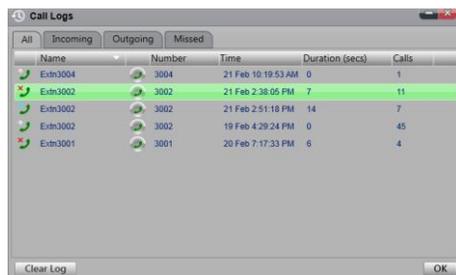
- o Enhanced user interaction with phones that use soft keys by creating hot keys for ad hoc conferencing.
- o Hot key blind transfer support.
- o Provide an option to activate/ deactivate do not disturb (DND) on extension through the use of hot keys.

Web Manager and Web Manager End User Self Administration Accessibility Support

- Accessibility support is being added to R9.1 for Day 2 administration of moves, adds and changes in Web Manager and for end user management with the new End User Self Administration Web Manager capability.
- The following functionalities are supported for accessibility:
  - o Focus highlighting to ensure that the element that has focus is easy to identify.
  - o Keyboard navigation so that any operation is available by using keyboard navigation.
  - o A short cut framework to facilitate a quick focus in specific areas of the application, thereby minimizing multiple TAB/SHIFT+TAB key strokes
  - o High contrast mode to make the application useable with the accessibility features enabled in Internet Explorer.
  - o Support for screen readers that comply with standard ARIA specifications.

Expanded and Updated Suite of Voluntary Accessibility Templates (VPATS)

- The "Voluntary Product Accessibility Template" is the form used for reporting and describing the extent to which a product does (or does not) conform to the applicable requirements in the U.S. Code of Federal Regulations 36 CFR Part 1194. Although specifically addressing 36 CFR Part 1194, these VPATS provide any customer with precise information about how the accessibility solutions available with IP Office.
- Specific VPATs to be available at the launch of R9.1 include:
  - o IP Office Solution
  - o IP Office Branch
  - o IP Office Voice Mail Pro
  - o IP Office One-X Portal Call Assistant
  - o Web Manager
  - o End User Web Manager
- IP Office VPATS, as well as VPATS for other Avaya products can be found at the following http://www.avayagov.com/accessibility/

In addition to the R9.1 deliverables listed above, part of the IP Office suite of accessibility solutions continues to include Voice Mail Pro and TTY.   People who are deaf or hard of hearing commonly use special text terminals known as TTYs to communicate over telephone lines. Voice Mail Pro options provide a TTY user interface that is the winner of the Access Innovation Award from the Association of Access Engineering Specialists.

U.S. Tax Implications

It may be possible for some small businesses to benefit from tax incentives, due to their efforts to remove barriers for people with disabilities, by purchasing the IP Office solution. To find out more about the Disabled Access Tax Credit, refer to the following link to IRS Form 8826.

http://www.irs.gov/pub/irs-access/f8826_accessible.pdf

NOTE: Please talk to your Tax advisor for more information.

5.5.14 MWI for Other Mailbox on a Programmable Button

Users want to have a Programmable Button on their phone that can monitor the MWI status of another Voicemail mailbox, pressing a configured button will take them to that mailbox. This will work for Users and Hunt Groups, across the SCN and for all supported Voice Mail solutions.

5.5.15 Make Authorization Codes Generally Available

Access to configuring Authorization Codes is disabled by default in Manager and requires registry setting change. Authorization codes are now generally available from this release onwards

5.5.16 Call Forwarding for Hunt Groups

A common use-case is for an SME to contract to an out of hour's answering service. This can be easily configured in the ICR, This relies on automatic time based switching (no manual override) and does not apply to internal calls. A common work around is to use the Night Service and Out-Of-Service Fallback options on the Hunt Groups. This requires creating another Hunt Group, setting that as the Fallback destination for the main group, creating a User, setting forwarding to the OOH service, enabling HG forwarding and adding the user to the newly created HG.
To eliminate the extra administration the Fallback destinations for Hunt Groups has changed to accept the same set of targets as an ICR, with the same configuration options in manager. The existing "Set Night/Out-Of Service Group" buttons will be renamed to "... Destination" and the UIs updated to allow general input.

5.5.17 Add Override Restriction/Barring Option for Each Entry

System directory enhancement to add override restriction or barring option. It is a system wide (all entries) feature only with a single control (System | Telephony | Telephony | Directory Overrides Barring). Allow the administrator to configure the directory with numbers that can override barring for a user, typical application is for a DECT phone used by the staff or phone located in a shared area, lounge, waiting room, hospitality. By default the phone will have call bared but will be able to dial allowed number flagged in the directory.

5.5.18 Other Support Enhancements

Voice Quality Monitoring:
With the increasing number of multi-site IP Office deployments, broader VoIP quality monitoring is becoming increasingly important.

In R9.1, a configuration setting is now provided to send RTCP messages from H.323 phones to 3rd party application collector applications, instead of sending them to the IP Office, as the collector. These 3rd party applications will be able to utilize this new IP Office functionality to provide richer QoS monitoring capabilities.

Refer to the DevConnect program at the link below for information on 3rd party applications.

www.avaya.com/devconnect

SNMP Full Qualified Domain Name (FQDN):
This new functionality allows SNMP traps to be sent to a Fully Qualified Domain Name (FQDN). In case the DNS server does not respond, if the FQDN has been resolved, the system will attempt to send the trap to the last known IP for this destination.

Free Text Description:
In order to speed up maintenance and diagnostics, this new capability allows the administrator to add a brief description (up to 31 characters in length) in the ARS and trunk configuration areas in Manager.

5.6   IP Office Contact Center R9.1

Please refer to the IP Office Contact Center R9.1 Offer Document located on the Sales Portal for additional details regarding the following release information.

IP Office Contact Center R9.1 is a separate product from IP Office R9.1. To obtain IP Office Contact Center R9.1, customers must be at IP Office R9.1 and purchase IP Office Contact Center R9.1 separately.

5.6.1   IP Office Contact Center New Material Codes

For IP Office Contact Center R9.1 we will be introducing all new material codes in support of IP Office R9.1 and IP Office R9.1 Select. All licensing for IP Office Contact Center R9.1 will be provided via PLDS. As a result, the required IP Office licensing will transition from ADI into PLDS in these scenarios. This will eliminate the manual process needed to support both ADI and PLDS licenses for IP Office Contact Center deployments.

Pricing for IP Office Contact Center (and relevant IPOSS) **will not** be affected, but the Business Partners will be required to ensure the correct codes are used for each deployment option noted.

5.6.2   IP Office Contact Center New Capacity Enhancements

New for IP Office Contact Center R9.1 is the expanded capacity from 100 agents and supervisors to 250 agents and supervisors (concurrent). All pricing, features and functionality remain identical to the previous release (with exception to changes in material codes for ordering).

Operating at capacity (i.e. deployments of >100 and up to 250 agents and supervisors) will require a larger server in support of the capacity expansion such as the Dell R620. Deployments of <100 agents and supervisors will continue to be supported on the Dell R210.

Business Partners and Distributors will be required to ensure the correct Avaya-provided servers or customer /partner supplied servers are employed to support either use case of <100 agents and supervisors and >100 agents and supervisors.

NOTE: *If deployment requirements are such that the customer may grow from <100 agent and supervisors to >100 agents, you may obtain an R620 specification server to support growth to the larger configuration.*

5.6.3   New IP Office Contact Center R620 Turnkey Hardware Appliance for support of up to 250 Agents

With R9.1 Avaya is introducing a new turnkey hardware appliance designed to provide a fully staged, pre-installed contact center server application complete with an R620 server platform, permanent Windows 2012 R2 OS license, and IP Office Contact Center core software. All that needs to be added is the IP Office Contact Center Base IP500 V2 or SE license, voice agent, multichannel agent, and/or supervisor licenses to

complete the solution. (Details can be found in the IP Office Contact Center R9.1FP1 Offer Document located on support.avaya.com)

5.6.4   IP Office Contact Center Database Migration

In IP Office Contact Center R9.1 Avaya has made the decision to migrate the Sybase database to PostgreSQL. This change will greatly enhance the user experience and result in improved TCO for customers as well as improve implementation times for partners.

Customers moving from IP Office Contact Center R9.0.x to R9.1 will enjoy a seamless migration of their existing Sybase database content to the new PostgreSQL database. Steps to ensure this area as follows:

- ‣ Customers must first backup their current database if they are planning to upgrade in place. A restore of that database will be necessary if the migration fails
- ‣ Customers have the option to upgrade their system by first installing R9.1 on a new system and perform a remote migration of the database from their old system.
- ‣ Database migration elapse time is dependent on the existing database size

5.6.5   IP Office Contact Center Support for Avaya Communicator 2.0.3 for Windows

IP Office Contact Center R9.1 now supports Avaya Communicator 2.0.3 for Windows. See section 5.4.7 above for details on the solution.

5.6.6   Customer Call Reporter (CCR)

With the introduction of IP Office R9.1, Advanced Edition and CCR will no longer be available for new system sales. Additionally, existing Advanced Edition customers will need to migrate their CCR to IP Office Contact Center via purchase of the IP Office Contact Center solution prior to upgrading to IP Office R9.1. However, CCR will continue to be sold and supported on IP Office R9.0.x systems consistent with Avaya lifecycle support policy. Avaya will be supporting a migration strategy that provides CCR customers with a clear path to move to IP Office Contact Center.

Further, as a result of this change, R9.1 Preferred Edition will now come with VM Pro database and Visual Basic Scripting (these were previously part of Advanced Edition). TTS and Contact Store will only be available to be ordered separately.

Someone upgrading from R9.0 to 9.1, who had Advanced Edition licensed on their R9.0 system, will continue to have the 8 ports of TTS and Contact Recorder enabled on their 9.1 upgraded systems. These features were previously part of Advanced Edition. CCR will not function upon the upgrade as it is not supported in 9.1.

5.7   Web Management

Avaya continues to evolve the IP Office Web Manager into a single, comprehensive management tool for IP Office.

In R9.0, the Web Manager focus was on Server Edition, particularly in areas of solution wide back-up, restore, upgrades and user management, as well as single URL management and one time log-in.   Web Manager for Standard Editions concentrated on user configuration for moves, adds and changes.

With the R9.1 release, Web Manager is significantly expanded to deliver a tool that will be very effective for managing Standard Editions (Essential, Preferred), Server Edition and IP Office Select.

New to this release of Web Manager:

- Essential Edition, Preferred Edition, Server Edition and IP Office Select
  - Object management of user, extension, group, auto attendant, ICR, location, ARS, time profile, short code, directory and IP route parameters
  - Voice Mail Pro system preference management, broadening the breath of the solution
  - Improved user interface and more intuitive task flows, making navigation and configuration simpler
  - Expanded browser support including support for tablets and other mobile devices
  - Enhanced file management for efficient administration
  - Web Manager end user self-administration portal enabling control of personal configuration
  - Communications accessibility support for visually impaired or blind users and Day 2 administrator moves, adds and changes
  - Improved performance for faster, more dependable access

- Essential Edition and Preferred Edition (unique features)
  - IP IP500 V2 dashboard providing "system at a glance" convenience
  - UCM V1 and V2 management, broadening the breath of the solution

- Server Edition and IP Office Select (unique features)
  - Solution level object management for quicker configuration
  - Single screen wizard for back-up, restore and upgrade to simply and speed up these operations

- IP Office Select (unique features)
  - Management of total solutions of up to 2500 users (3000 users with Select 9.1.2 FP) and 150 sites for convenience and efficiency
  - User synchronization from LDAP directories to save time, reduce complexity and integrate with enterprise processes

With these new features, Web Manager will now be able to support: Management of the IP500 V2, Linux servers, IP500 V2 and UCM; Ignition process on Server Edition and IP Office Select; On Boarding; Importing users; platform management; day to day, most frequently used configuration settings; single log in; Voicemail Pro system preference management; back-up/restore and upgrade of the Server Edition and IP Office Select solution; accessibility; and, end user self-administration.

NOTE: The comprehensive version of Web Manager introduced for Basic Edition in IP Office R8.0, continues to be used for Basic Edition in R9.1.

Launching IP Office Web Manager
- Launching IP Office Web Manger or IP Office Web Manager End User Self Administration is as simple as accessing the single system URL, as illustrated below, and clicking on the desired option.

IP Office Select R9.1

System Name: Web_Primary
IP Address: 148.147.182.109

IP Office Self Administration
IP Office Web Manager
System Status
Knowledge Base
Avaya Support

Web Manager Configuration Management

Web Manager will now be able to configure the following IP Office configuration parameters:
- User
- Extension
- Group
- Auto Attendant (Standard Editions only)
- Incoming Routes (ICR)
- Locations
- Automatic Route Selection (ARS)
- Time Profile
- Short Codes
- Directory
- IP Routes
- Services (SSL/VPN)

Voicemail Pro System Preferences

System preferences for Linux versions of Voicemail Pro running on the Server Edition, IP Office Select, UCM and application servers can now be configured in Web Manager. This is an example of how the current suite of management applications is being consolidated in Web Manager, release over release.

All tabs available in system preferences of the Voicemail Pro client will be available in Web Manager (Applications/Voicemail Pro System Preferences), including:
- General
- Email
- Housekeeping
- SNMP
- Out Calling
- Voice Mail Recording
- Syslog
- Alarms
- User Groups
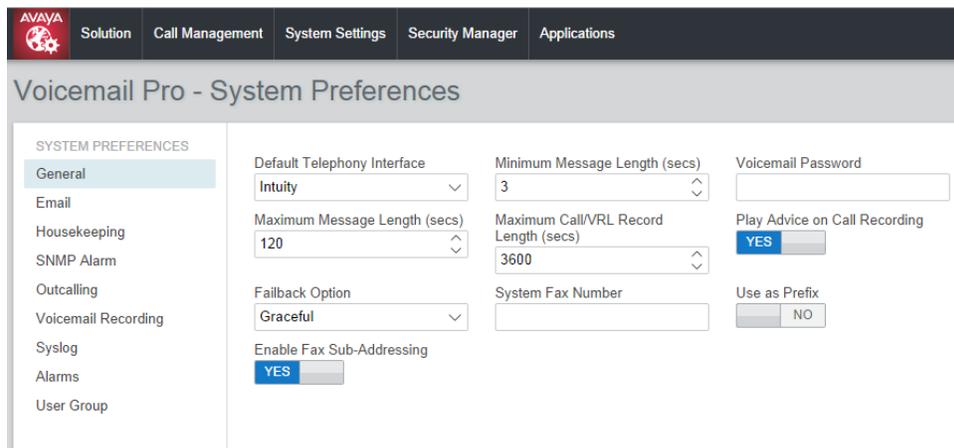
The Voicemail Pro back up option has also been enhanced to support Selective Back-Up whereby only mailboxes selected in System preferences will be backed up. Selected mailboxes can be identified for restoring as well.

The file management capability in Web Manager also supports the option to upload VM Pro prompts.

Improved User Interface and More Intuitive Task Flows

Users familiar with previous versions of Web Manager will notice many improvements throughout the user interface. Based on direct Business Partner feedback as well as intensive consultation with Avaya's design interface experts, these improvements serve to make Web Manager more intuitive and increase user productivity.

A couple of examples of user interface improvements include:
- Consistent filter and search capability for faster navigation
- Single screen wizard for quicker configuration of Back-up/Restore and upgrades, including remote server configuration, proxy configuration and scheduling.

Expanded Browser Support

An expanded set of browsers and devices is supported in R9.1. Please refer to section 5.9 for details on Web Manager and other IP Office applications.

Enhanced File Management

File management supports:
- Secure access to the file system
- Single log-in for Server Edition and IP Office Select
- Display of directory content in a hierarchy structure with the ability to create sub directories
- Upload and download of single or multiple files
- Display details of file attributes such as name, size, type and last date modified
- Display of access permissions for the file as well as the ability to modify permissions
- Ability to rename directories and files
- Copy or move single or multiple files from one directory to another on the same system.
- Deletion of single or multiple files.

Web Manager End User Self-Administration

End users will now be able to access the Web Manager End User Self Administration portal to manage their own personal configuration parameters. System administrators will have the ability to control access to self-administration for all or selected users, as well as being able to specify which attributes are available through the self-administration portal. Access is from the IP Office landing page or through a direct URL that can be provided to the end users.

The table below outlines the various groups and fields available to the end user for their personal configuration.

Group	Fields
General	Password, Full Name, Language, Login Code, Denial Intercom
Voicemail	Voicemail Code, Email Address, Email options, Voicemail On, Voicemail Ring back
DND	DND ON/OFF, Exception List
Personal Directory	
Forwarding	Forwarding ON/OFF, Forwarding Number Forwarding No Answer, Forwarding On Busy Forwarding busy Number
Mobility	Mobility ON/OFF, Mobile Number
Button Programming	Abbreviated Dial, Absence Text, Account Code Auto Answer, Call Forward All, Call Park Call Park to Other, Call Pickup, Call Pickup Any Conf Meet Me, Drop Call, Flash Hook, User BLF Group BLF, Page, Park and Page, Twining Ringer Off, Send All Calls, Suppress Digits
Downloads	Download IP Office client software

Shown below is the main screen that the end user will view when in Web Manager. In this particular case, the user has selected Profile and has the ability to change parameters such as full name, password and local.

Communications Accessibility Support

Accessibility support is being added to R9.1 for Day 2 administration of user moves, adds and changes in Web Manager and for end user management with the new End User Self Administration Web Manager capability.

The following functionalities are supported for accessibility:
- Focus highlighting to ensure that the element that has focus is easy to identify.
- Keyboard navigation so that any operation is available by using keyboard navigation.
- A short cut framework to facilitate a quick focus in specific areas of the application, thereby minimizing multiple TAB/SHIFT+TAB key strokes
- High contrast mode to make the application useable with the accessibility features enabled in Internet Explorer.
- Support for screen readers that comply with standard ARIA specifications.
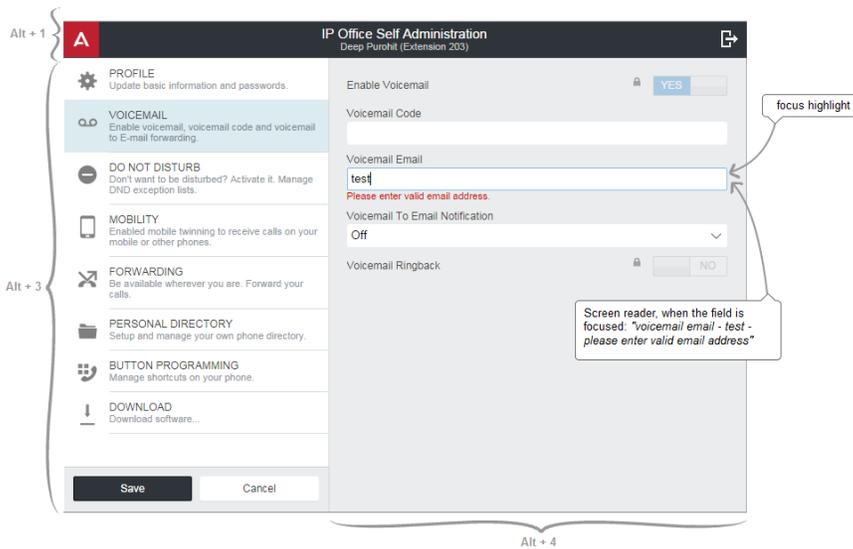
Please refer to Section 5.5.13 for additional details on other communications accessibility enhancements in this release.

IP Office IP500 V2 Dashboard

The IP500 V2 is the landing page when logging into a Standard Edition IP500 V2 system. This "system at a glance" provides the user with the convenience of viewing a system summary in a single page.

Highlights include:
- A visual representation of the system with the expansion units, including details of the card and associated ports
- Control unit information
- System Information such as: Name; Locale of system; Location; and details of LAN-1 and Lan-2 (IP Address, Mask, DHCP)
- Key settings like Voice mail types, Licenses, Automatic Backup configured
- Summary of Users available on the system group by Profiles
- Extensions available as per extension type
- Available Hunt group on systems

An illustration of the dashboard is presented below.
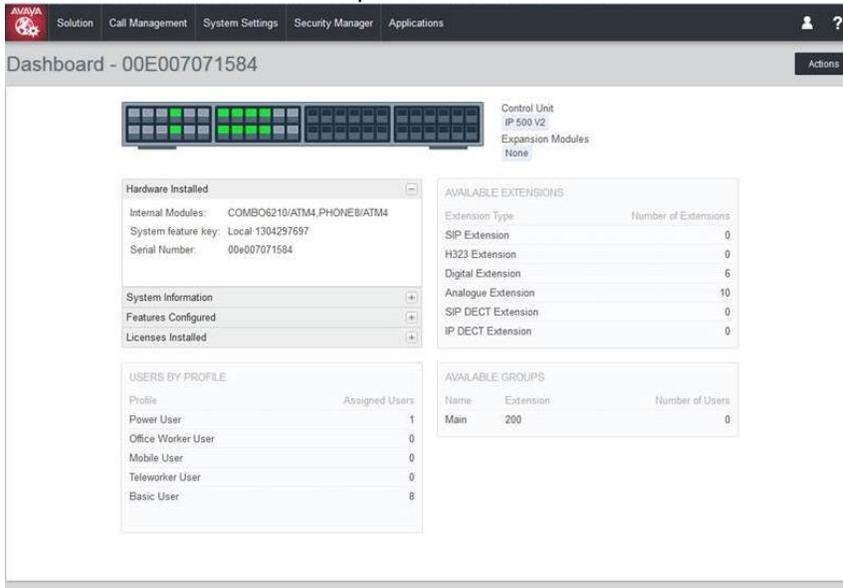
Unified Communication Module (UCM) V1 / V2 Management

Web Manager can now perform activities on the UCM such as Backup/Restore, Upgrade, platform management, launching applications, file management and Voicemail Pro system preferences management.

The user will be able to launch several applications through a single, Web Manager log-in, including: web control page for platform management; One-X portal administration; IP Office Manager; Voicemail Pro client; Voicemail Pro System Preferences; SSA; and, file management.

Server Edition and IP Office Select Solution View Enhancements

The solution view below is the landing page when logging into a Server Edition or IP Office Select solution.
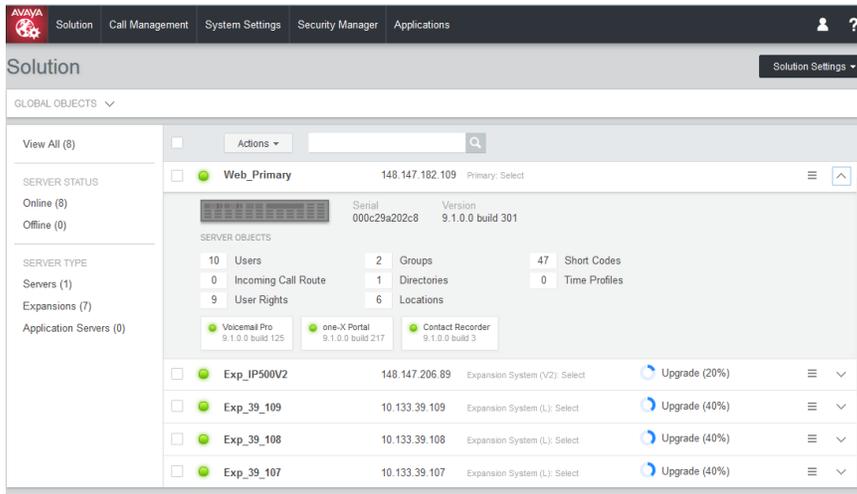
From this single screen, users are able to view all systems in the solution, along with a count of on-line and off-line system. The individual node can be expanded to present many details as shown below. From here, the user can proceed to perform various operations.
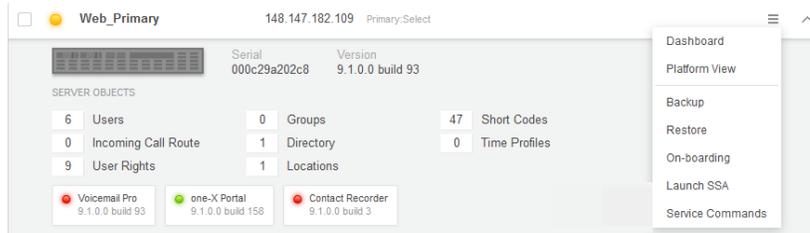
From the solutions view, the user can also:
- View a listing of solution level objects such as: Users; Groups; Short Codes; Directory; Time Profiles; and Locations
- Obtain a listing of object counts for each node.
- Trigger back-up, restore and upgrade operations on all or selected nodes
- Perform a tightly integrated backup, restore or upgrade operation through a single entry point
- View an indication that an upgrade is available with the specific version listed
- Monitor the progress of a backup, restore or upgrade operation
- Launch the platform view for Linux systems

LDAP User Synchronization on IP Office Select

Most large organizations use enterprise directories such as LDAP and Microsoft Active Directory to store the employee basic information like username, address, department, phone number.

The introduction of LDAP user synchronization capability in Web Manager simplifies and reduces time for Day-1 provisioning of users. Synchronization process can be run on-demand or as a scheduled job to reduce after hours support. User provisioning rules are defined by the administrator for added flexibility. When synchronizing, there is an option to configure the ability to add, modify or delete users based on what has changed in the LDAP database. A preview of the results shows how the LDAP user data will be populated on the IP Office.

Supported LDAP servers include:
- Active Directory 2008/2012
- OpenLDAP 2.4.21

- IBM Domino 7.0
- Novell eDirectory 8.8
- SunOne Directory/Java System Directory 6.3

Fields that can be synchronized from LDAP are:
- Name
- Full Name
- Extension
- Email Address

The illustration below shows the screen where the mapping from IP Office with LDAP parameters is performed.
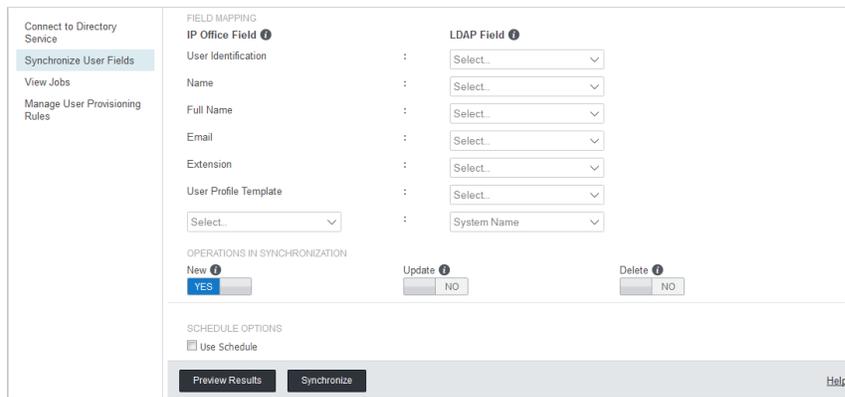
NOTE: User authentication against the LDAP data base is not supported in this release.

5.8 Security

This section will describe the security changes in the following areas:
- Encryptions and Certificates
- TLS and SRTP
- Other Security Enhancements

5.8.1 Encryption and Certificates

IP Office offers its identity certificate on TLS connections. There are various options for getting an identity certificate for the IP Office:

- IP OFFICE historically supported self-signed certificates that are considered minimally secure based on older encryption algorithms such as SHA-1. In this release we are now supporting a more secure SHA-256 based signing algorithm and 2048 bit RSA key.
- In addition, starting in Release 9.1, the IP OFFICE SE Primary Server or Application Server can act as a Certificate Authority (CA) and issue identity certificates derived from its own self-signed root CA.
- IP Office can get an identity certificate issued by a third party CA and this certificate can then be installed on the IP Office.
- As in R9.0, in branch deployments where IP Office is deployed with Avaya Aura® System Manager, IP Office can get its identity certificate signed by the Avaya Aura® System Manager CA via Simple Certificate Enrolment Protocol (SCEP).

Irrespective of the chosen method of providing the identity to the IP Office, the CA which signs the IP Office identity certificate should be trusted by all the endpoints who need to establish a secure connection with IP Office (eg, Communicator clients, mobility clients, Radvision endpoints, etc)

This means that the root CA certificate or the self-signed identity certificate has to be downloaded to the client device.

Starting in R9.1 there are two hardcoded CA certificates in the IP Office Trusted Certificate Store (TCS):
- Existing SIP Product Root CA introduced in R9.0
- Verisign intermediate CA used by the "AVAYA_SUPPORT" SSL VPN service connecting to Avaya IT

In branch deployments where IP Office performs a SCEP exchange with Avaya Aura® System Manager, IP Office will automatically add the SMGR CA root certificate to its Trusted Certificate Store.
Other CA certificates can be added to the IP Office Trusted Certificate Store manually.

5.8.2 TLS and SRTP Encryption

TLS
IP Office historically (as far back as IP Office Release 6.0) supported TLS on Management links (i.e., between PC running IP Office Manager and IP Office).

Starting from B5800 Release 6.2, TLS was used to secure Telephony signaling as it pertained to branch deployments.

IP Office Release 9.0 carried forward TLS support for IP Office branch deployments with Avaya Aura. Additional TLS capable SIP endpoints like the 11xx/12xx phones were also introduced. TLS security was extended to the SIP line as well for secure connections to public SIP providers.

In Avaya Aura deployments, IP Office and the endpoints work in the SMGR trust model and accept ID certificates signed by the SMGR CA. IP Office uses SCEP to get signed ID certificate from the SMGR.

In Release 9.1, TLS support has been extended to additional endpoints and trunks.

In IP Office R9.1, TLS is supported to secure the signaling on IP Office lines that link IP Office systems. This is in addition to the existing support for TLS on SM Line and on SIP trunks.

The following SIP endpoints are supported with TLS to secure the SIP signaling and HTTPS interactions with IP Office:
- 11xx/12xx SIP phone
- Avaya Communicator (iPad and Windows)
- B179 conference SIP phone
- E129 SIP phone
- OneX Mobile Preferred (iOS and Android)
- Radvision XT 4000/5000 series
- SIP endpoints deployed as Centralized users in branch deployments

TLS can also be used by the 96x1 H.323 phones to get their settings files by HTTPS over TLS from the IP Office as a file server. This does not include the firmware files which are not downloaded by the phone over HTTPS but over HTTP. The phones do not use TLS for their H.323 signaling with IP Office but the H.323 signaling between the phones and the IP Office is secured by a different mechanism (referred to as Annex H).

As mentioned above, in order for the endpoints to connect via TLS to the IP Office, the certificate of the root CA which signed the IP Office identity certificate has to be installed on the endpoint.

SRTP – Media Encryption

SRTP secures media traffic by providing authentication and encryption. IP Office Release 9.0 provided limited support for SRTP in branch deployments with Avaya Aura. In Release 9.1, SRTP support has been extended to additional endpoints and trunks.

SRTP is supported on IP Office Standard Edition and Server Edition, on IP500v2 and Linux platforms. It is not available in Basic Edition. SRTP can be disabled on the IP Office platform for deployments in certain geographical locations e.g. Russia. SRTP impacts the performance of the IP Office – it lowers the maximum number of simultaneous calls compared to non-encrypted RTP traffic.

SRTP is supported for traffic on the following types of IP trunks:
- SM Line
- SIP Line
- IP Office Line (new type of trunks in R9.1 that link IP Office systems, including SCN trunks)

SRTP is not supported for traffic on H.323 trunks (these are H.323 trunks that do not link IP Offices together).

SRTP is supported with the following endpoints:
- 96x1 H.323 phones (but not 96x0 H.323 phones)
- 11xx/12xx SIP phone
- Avaya Communicator (iPad and Windows)
- B179 conference SIP phone
- E129 SIP phone
- OneX Mobile Preferred (iOS and Android)
- Radvision XT 4000/5000 series
- SIP endpoints deployed as Centralized users in branch deployments

QoS monitoring using Avaya RTCPMon is not affected and Avaya endpoints will still transmit the RTCPMon packet in clear text.

SRTP on IP Office R9.1 has to be configured at the System level. The system level settings can be overridden for individual trunks or extensions in special cases if they must be different from the system setting, but the extension level granularity for configuring Media Security can lead to confusion and should be avoided if not necessary.

The system level SRTP configuration can have one of the following three values:
- Disabled (this is the default value) – No SRTP. Only RTP.
- Best Effort – IP Office will use SRTP if supported in a compatible way by the other end, and otherwise will use RTP. On SIP interfaces, the negotiation for Best Effort SRTP is done by cap-neg.
- Enforce - IP Office will use only SRTP on this call leg. If not possible then the call will not be established.

IP Office supports unencrypted RTCP by default. This default is compatible with most Avaya endpoints and Avaya Aura Communication Manager. IP Office also supports RTCP encryption as a configurable option at the system level as well as per trunk and per extension. But RTCP encryption should not be turned on carelessly. It can be turned on in case IP Office is connected to an exception entity which only supports encrypted RTCP. In such case there will be no direct media SRTP between that entity and one that does not support encrypted RTCP, and IP Office will relay the SRTP media.

When using SRTP, IP Office uses encrypted and authenticated SRTP. IP Office also supports configurable options to turn off the SRTP encryption and/or SRTP authentication flags. However, these flags should not be turned off unnecessarily.

SRTP Crypto Suite AES_CM_128_HMAC_SHA1_80 is enabled by default.
AES_CM_128_HMAC_SHA1_32 can be configured but is disabled by default, for compatibility with the
96x1 H.323 phones.

*NOTE: IP Office concurrent call capacity is impacted by IP Office R9.1 support for SRTP. See the Server Edition
Deployment Guide for detailed engineering rules.*

*NOTE: IP Office Remote Worker functionality is supported when encryption is activated for both H.323 and SIP
endpoints. There is a limitation in the H.323 case: The Remote Worker solution works when encryption is activated if the
phone is behind a NAT/NAPT that does not include an enabled H.323 Application Level Gateway (ALG). However, the
Remote Worker solution will not work with encryption if the NAT/NAPT front-ending the H.323 phone includes an H.323
ALG, which translates the IP addresses and port numbers within the H.323 signaling. If there is an ALG on the
router/NAT then it should be disabled. If the ALG cannot be disabled then encryption should not be activated.*

5.8.3 Security Enhancements

For new IP Office R9.1 systems, security settings and configuration settings have new defaults to harden
default systems; on IP Office R9.1 upgrades, no existing settings are changed.

New systems must change the Security Administrator and default Administrator account passwords. The
System legacy interface password must also be changed.
- First time login using the Administrator service user account (also the using the security administrator
  account) will require a password change. This applies to Standard, Server Edition, Application Server
  and UCM; does not apply to Basic systems.
- Password change is supported from the Ignition web interface, IP Office Manager, and Web
  Manager

New secure access interfaces
- Secure interface supported between VMPro and IP Office over WebSockets
- SysMonitor interface over HTTPS
- SSA interface over TLS
- Softconsole interface over HTTPS
- Directory access via HTTPS
- Syslog over TLS

H.323 Gatekeeper and SIP Registrar blacklisting
- Ignore registration requests from either the same source IP address or the same destination
  SIP/H323 account for a period of time (60 seconds) when more than 10 failed attempts are made in a
  fixed period (10 minutes).
- System alarms and audit trail tracking

Auto-create User and Extension hardening
- The Auto-Create option for SIP and H.323 extensions and user account will have a new timeout that
  will disable these option 24 hours after they have been enabled

Telephony login code complexity setting
- System setting to enforce user Telephony login code complexity
- The Administrator is allowed to set the login code to any value even if the complexity settings are
  not met. This allows the administrator to assign temporary login code. End user changing the
  login code must meet the complexity settings

Voicemail passcode complexity setting
- System setting to enforce user/hunt group voicemail passcode complexity

- Centralized setting which is used by VMPro and embedded voicemail for both IP Office and Intuity modes. This feature will keep the way complexity is managed consistent across VMPro and embedded voicemail regardless of the mode.

IP Office R9.1 provides support for Linux as an HTTPS backup/restore server, including quotas to limit Denial of Service (DoS) attacks

Manager support of saving/loading encrypted configuration file

Linux firewall
- Support for IPTables with default rules to lock down the system
- Web management ports are rate limited to prevent DoS attacks
- Reject packets are logged
- New rights for Web control security for separation of configuration and security privileges
-

5.9 Operating System and Browser Support

R9.1 Operating System and Browser Support is summarized in the tables below.

Operating System Editions and Service Packs

Operating System	Service Pack	Editions
Windows 7 32/64	SP1	Professional, Enterprise, Ultimate
Windows 8.1	n/a	Pro, Enterprise
Server 2008 32/64	SP2	Standard, Small Business Server
Server 2008 R2 (64 only)	SP1	Standard
Server 2012	n/a	Standard
Server 2012 R2	n/a	Standard

Operating System Support - Server Components

Application	Win 7		Win 8.1 (3)		Server 2008 /2008R2 (2)		Server 2012/2012R2
	32 bit	64 bit	32 bit	64 bit	32 bit	64 bit	64 bit
Preferred Edition Server (Voicemail Pro) Standalone	✓	✓	✓	✓	✓	✓	✓
... Plus UMS	X	X	X	X	✓	✓	✓
... Plus Campaigns	X	X	X	X	✓	✓	✓
... with IMS	X	X	X	X	✓	X	X
... MAPI service for Voicemail Pro on Linux	✓	✓	X	X	✓	✓	✓
Contact Store Server	X	X	X	X	✓	✓	X
one-X Portal for IP Office Server	X	X	X	X	✓	✓	✓
TAPI - 3rd Party & TAPI WAV	✓	✓	✓	✓	✓	✓	✓
IP Office Contact Center (IPOCC)	X	X	X	X	X	✓ (1)	✓ (1)

NOTES:

1) *IP Office Contact Center Server 2008R2 and 2012R2*
2) *2008R2 is 64 bit only*
3) *As per Microsoft Win 8.1 is the replacement/Service Pack for 8.0 - http://windows.microsoft.com/en-GB/windows/service-packs-download#sptabs=win8other (link valid 16-Jun-2014)*

Operating System Support - Thick Client Apps

Application	Win 7		Win 8.1		Server 2008/2008R2		Server 2012/2012R2
	32 bit	64 bit	32 bit	64 bit	32 bit	64 bit	64 bit
Voicemail Pro Client	✔	✔	✔	✔	✔	✔	✔
SoftConsole	✔	✔	✔	✔	X	X	X
Manager	✔	✔	✔	✔	✔	✔	✔
SysMon	✔	✔	✔	✔	✔	✔	✔
SSA	✔	✔	✔	✔	✔	✔	✔
TAPI 1st Party	✔	✔	✔	✔	✔	✔	✔
TAPI WAV	✔	✔	✔	✔	✔	✔	✔
IP Office Video Softphone (2)	✔	✔	X	X	X	X	X
Avaya Communicator	✔	✔	✔	✔	X	X	X
one-X Portal Plug-In for Outlook	✔	✔	✔	✔	X	X	X
one-X Portal Plug-In for Salesforce.com	✔ (1)	✔ (1)	✔ (1)	✔ (1)	X	X	X
Call Assistant	✔	✔	✔	✔	X	X	X
Plug-In for MS Lync 2010	✔	✔	✔	✔	X	X	X
Plug-In for MS Lync 2013	✔	✔	✔	✔	X	X	X
Web Conferencing (Adobe Flash and Java Applet for sharing)	✔	✔	✔	✔	X	X	X
IP Office Contact Center (IPOCC)	✔	✔	✔	✔	X	X	X

NOTES:

1) *With matching IE - use IE8-32bit on Win7-32bit, IE8-64bit on Win7-64bit*
2) *Legacy support only*

Mac Thick Client Applications

Application	OSX 10.7 Lion	OSX 10.8 Mountain Lion	OSX 10.9 Mavericks	OSX 10.10 Yosemite
IP Office Video Softphone - Version 4.0	X	✔	✔	✔
Web Conferencing (Adobe Flash and Java Applet for sharing)	✔	✔	✔	✔

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Browser Support for IP Office Applications

Application	IE8	IE10	IE11	FFXX (3)	Chrome XX (3)	Safari 7
Voicemail Pro Campaigns Client	✔	✔	✔	X	X	X
Voicemail Pro UMS WebMail	✔	✔	✔	X	X	X
Contact Store Client (4)	✔	✔	X	X	X	X
one-X Portal for IP Office Client	✔ (2)	✔	✔	✔	✔	✔
Web Conferencing	N	✔	✔	✔	✔	✔
Web Manager	N	✔	✔	✔	✔	✔
Web Control Page	N	✔	✔	✔	✔	✔
Salesforce.com Plug-In	✔ (1)	✔ (1)	N	✔ (4)	✔ (4)	X
D100 DECT Admin	✔	✔	✔	✔	✔	✔
IP DECT R4 Admin	✔	✔	✔	✔	✔	✔

NOTES:

1) *With matching IE - use IE8-32bit on Win7-32bit, IE8-64bit on Win7-64bit (support is dependent on the plugin used)*
2) *Not on Server O/S*
3) *Testing on Firefox and Chrome are performed with the latest version available at the time of testing (Firefox 32.0 and Chrome 37.0 were tested).*
4) *Please refer to the KB article released by Salesforce for latest versions Firefox and Chrome.*
   https://help.salesforce.com/HTViewSolution?id=000187116

6   Upgrading

Customers operating earlier releases of software will need to purchase an upgrade to get to Release 9.1.

IP Office Support Services (IPOSS) contracted customers are entitled to no charge IP Office software updates/upgrades in accordance with the terms of their support contract.

The terms and conditions of the IP Office Support Services offer and how to purchase maintenance coverage can be found on the link below.
https://sales.avaya.com/en/pss/ip-office-support-services?view=collateral

Additional information is also provided in of this document.

IP Office Select

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IP Office Select is a new product offering and R9.1 is the first release. As such, unlike moving from one Server Edition version to another, where a basic upgrade license is required, moving to IP Office Select is a migration activity. Existing Server Edition licenses need to be replaced by purchasing a new set of IP Office Select Migration PLDS licenses. See Appendix B for additional details.

NOTE: IP Office Select R9.1 is a new product offering and there is no entitlement under IPOSS.

7   Interoperability Table

Additional details of this Interoperability Matrix section are currently being worked and will be included in an up-issue of the IP Office R9.1 Product Update.

Interoperability is segmented as follows:

Interoperability Matrix	
Segment	**Interoperable Products**
IP Office	IP Office
End-Points	1100 Series IP Deskphones SIP 4.4
	1200 Series IP Deskphones SIP 1.0
	1400 Series Digital Deskphones 1.0
	1600 Series IP Deskphones H.323 1.3
	3600 Series IP Wireless Handsets 3.0
	3641 IP Wireless Handset H.323 3.0
	3700 Series DECT Handsets 4.0
	9600 Series IP Deskphones 96x0 H.323 3.1/3.2
	9600 Series IP Deskphones 96x0 SIP 2.6
	9600 Series IP Deskphones 96x1 H.323 6.4/6.5
	9600 Series IP Deskphones 96x1 SIP 6.4
	IP DECT Phones
	D100 DECT base station, D160 handset
	B100 Series Conference Phones B179 SIP R2.3
	Avaya Communicator iPad 1.1/1.2/2.0
	RAPID (E129) phone
	Avaya Communicator Windows 2.0
	Konftel Branded Phones for the Avaya Channel Phase I
	Avaya one-X Mobile Preferred for IP Office Android
	Avaya one-X Mobile Preferred for IP Office iOS
	Avaya one-X® Communicator SIP 6.2 /6.2.3
	E159/169 R1.1 Media Station
Aura Applications	Avaya Aura® Call Center Elite 6.3.6 FP
	Avaya Aura® Call Center (I think this is Contact Centre,if so then its version 6.4)
	Avaya Aura® Communication Manager 6.3.6/6.3.9
	Avaya Aura® Conferencing 7.2/8.0
	Avaya Aura® ME 6.2
	Avaya Aura® Meeting Exchange 6.2
	Avaya Aura® Experience Portal 6.0/7.0
	Avaya Aura® Messaging 6.2/6.3
	Avaya Aura® Session Manager 6.3.8
	Avaya Aura® System Manager 6.3.11
Additional Applications	Avaya CallPilot® R5.1
	B5800 Branch Gateway R6.2
	Business Communications Manager 6.0 SU 24
	Communication Server 1000 R7.6

Interoperability Matrix

Segment	Interoperable Products
	Modular Messaging 5.2
	Outbound Contact Express 1.1
	Voice Portal 7.0
Data Services	Avaya Session Border Controller
	Avaya Session Border Controller for Enterprise 6.3
Other Services	Video Collaboration Solution for IP Office
	Radvision Scopia® Video Conferencing Infrastructure
	Secure Access Link

The following table provides an overview of the Avaya phones supported on IP Office R9.1:

	R9.0			R9.1		
	IP Office Standard Edition	IP Office Basic Edition	Server Edition (all IP)	IP Office Standard Edition	IP Office Basic Edition	Server Edition/Select and Virtualized IP Office (all IP)
Generally Available Phones						
Analogue Desk Phones						
POTS	✔	✔	✘	✔	✔	✘
Avaya 1000 Series Video Phones						
1010, 1020, 1030, 1040 (Lifesize)	✔	✘	✔	✔	✘	✔
1400 Series - Digital (DS) - CM and IP Office						
1403, 1408, 1416	✔	✔	✘	✔	✔	✘
DBM32	✔	✔	✘	✔	✔	✘
1600 Series - IP (H323) - CM and IP Office						
1603, 1603SW, 1603SW-i, 1608, 1608-i, 1616, 1616-i	✔	✘	✔	✔	✘	✔
BM32 (DSS)	✔	✘	✔	✔	✘	✔
2400 Series - Digital (DS) - CM and IP Office						
2402D, 2410D, 2420	✔	✔	✘	✔	✔	✘
EU24	✔	✔	✘	✔	✔	✘
3600 Series - WiFi (H323) - CM and IP Office						
3641, 3645	✔	✘	✔	✔	✘	✔
3700 Series - DECT - CM and IP Office						
3720, 3525, 3740, 3749	✔	✘	✔	✔	✘	✔
3900 Series - ETR DECT Cordless						
3920	✘	✔	✘	✘	✔	✘
9400 Series - Digital DS, CM and IP Office						
9404, 9408	Not Supported on IP Office					
9500 Series - Digital DS, IP Office Only						

	R9.0			R9.1		
	IP Office Standard Edition	IP Office Basic Edition	Server Edition (all IP)	IP Office Standard Edition	IP Office Basic Edition	Server Edition/Select and Virtualized IP Office (all IP)
9504, 9508	✔	✔	✘	✔	✔	✘
BM12	✔	✔	✘	✔	✔	✘
9600 Series - IP H323 CM and IP Office						
9620L, 9620C, 9630, 9640G, 9650, 9650C	✔	✘	✔	✔	✘	✔
9670	✘	✘	✘	✘	✘	✘
SBM24 with 96x0	✔	✘	✔	✔	✘	✔
9601	✘	✘	✘	✘	✘	✘
9608, 9608G, 9611G, 9621G, 9641G, 9641GS	✔	✘	✔	✔	✘	✔
BM12	✔	✘	✔	✔	✘	✔
SMB24 with 96x1	✘	✘	✘	✘	✘	✘
B100 Series - Conference Phones						
B149, B159	✔	✔	✘	✔	✔	✘
B179 SIP	✔	✘	✔	✔	✘	✔
D100/D160 DECT						
D160	✔	✔	✔	✔	✔	✔
E100 Series – IP Phone						
E129	✔	✘	✔	✔	✘	✔
E159/ E169	✔	✘	✔	✔	✘	✔
Softphones						
Phone Manager Softphone (H323)	✘	✘	✘	✘	✘	✘
IP Office Video Softphone Window (SIP)	✔	✘	✔	✘	✘	✘
IP Office Video Softphone Mac (SIP)	✔	✘	✔	✔	✘	✔
Flare Experience Windows	✔	✘	✔	✘	✘	✘
Flare Experience iPAD	✔	✘	✔	✘	✘	✘
Avaya Communicator Windows	✔	✘	✔	✔	✘	✔
Avaya Communicator iPAD	✔	✘	✔	✔	✘	✔
Norstar / BCM Phones - General Available and End of Sale						
1100 Series - SIP Phone (BCM Unistim Migration)						
1110E, 1165E	✘	✘	✘	✘	✘	✘
1120E, 1140E	✔	✘	✔	✔	✘	✔
BM LED & Paper Labels	✔	✘	✔	✔	✘	✔

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	R9.0			R9.1		
	IP Office Standard Edition	IP Office Basic Edition	Server Edition (all IP)	IP Office Standard Edition	IP Office Basic Edition	Server Edition/Select and Virtualized IP Office (all IP)
BM LCD	✔	✘	✔	✔	✘	✔
1200 Series - SIP Phone (BCM Unistim Migration)						
1210	✘	✘	✘	✘	✘	✘
1220, 1230	✔	✘	✔	✔	✘	✔
BM paper	✔	✘	✔	✔	✘	✔
BM LCD	✔	✘	✔	✔	✘	✔
Norstar/BCM Digital Phones						
T7000, T7100, T7208, T7316, T7316E	✔	✔	✘	✔	✔	✘
T24 Key Module	✔	✔	✘	✔	✔	✘
M7100[N], M7208(N), M73100(N), M7310BLF, M7324[N]	✔	✔	✘	✔	✔	✘
Note: Only the Global Version of the M7000 Series Sets is supported on the IP Office. The Non-Global version is not supported and can be identified through the contrast levels. The Global Version has 9 Contrast Levels while the Non-Global has only 4 Contrast Levels.						
CAP Key Module	✔	✔	✘	✔	✔	✘
BCM Door Phone	✘	✘	✘	✘	✘	✘
Norstar/BCM Digital Conference Phone	✔	✔	✘	✔	✔	✘
ATA-2	✘	✘	✘	✘	✘	✘
Nortel Digital Mobility						
T7406 & T7406E	✔	✔	✘	✔	✔	✘
7420, 7430, 7434, 7439, 7440, 7449	✔	✔	✘	✔	✔	✘
4135, 4136, 4145, 4146, 4145EX, 4146EX	✔	✔	✘	✔	✔	✘
Legacy Avaya Phones - No longer available for sale-See Note 1						
3600 Series - WiFi (H323) - CM and IP Office						
3616, 3620, 3626	No longer supported					
3700 Series - DECT - CM and IP Office						
3701, 3711	✔	✘	✔	✔	✘	✔
3800 Series - Digital Cordless						
3810	✔	✘	✘	✔	✘	✘
3900 Series - ETR DECT Cordless						
3910	✘	✔	✘	✘	✔	✘
4400 Series - Digital, Magix and IP Office						

	R9.0			R9.1		
	IP Office Standard Edition	IP Office Basic Edition	Server Edition (all IP)	IP Office Standard Edition	IP Office Basic Edition	Server Edition/Select and Virtualized IP Office (all IP)
4406D, 4412D, 4424D	✔	X	X	✔	X	X
4424LD	X	X	X	X	X	X
4450 DSS unit	✔	X	X	✔	X	X
4600 Series - IP H323 - CM and IP Office						
4601, 4602IP, 4602SW, 4610IP, 4610SW, 4620, 4621, 4625	✔	X	✔	✔	X	✔
4606, 4612, 4624	No longer supported					
5400 Series - DS Digital, IP Office only						
5402, 5410, 5420	✔	X	X	✔	X	X
EU24	✔	X	X	✔	X	X
5600 Series - IP H323, IP Office only						
5601, 5602IP, 5602SW, 5610IP, 5610SW, 5620, 5621	✔	X	✔	✔	X	✔
EU24	✔	X	✔	✔	X	✔
6400 Series - DS Digital, CM and IP Office						
6408D+, 6416D+, 6424D+, XM24 (DSS)	No longer supported					
9000 Series - Digital, Cordless - Magix & IP Office						
9040	No longer supported					
ETR Phones - Analogue Feature Phone, PARTNER and IP Office						
"Refreshed" 34, 18 &6 Button Display	X	✔	X	X	✔	X
"Euro" 34 & 18 Button Display	X	✔	X	X	✔	X
"Euro" 18 & 6 Button non-Display	X	✔	X	X	✔	X
T3 & T3 IP Series						
T3 Compact, Classic, Comfort, DSS	✔	X	X	✔	X	X
T3 IP Compact, Classic, Comfort	✔	X	✔	✔	X	✔
SIP phones supported as Centralized Users in IP Office Branch deployments, with failover from Avaya Aura® Session Manager to IP Office **Refer to** *Administering Centralized Users for an IP Office™ Platform Enterprise Branch*, **document ID 15-604263**						
9600 Series Centralized SIP phones: 9620, 9630, 9640, 9650, 9601, 9608, 9611, 9621, 9641	✔	X	X	✔	X	X
Avaya one-X® Communicator SIP	✔	X	X	✔	X	X
1120, 1140, 1220, 1230	X	X	X	✔	X	X
B179	X	X	X	✔	X	X

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*** NOTE:** Supported in this context means the phones have been tested for interoperability with IP Office. These phone models may not support new features and if the phone model is outside of the Avaya Manufacturer Support period, resolution of any phone issue is limited to already available bug fixes.*

8   IP Office R9.1 Interoperability Deployment Scenarios

With the IP Office R9.1 release a number of interoperability scenarios with other Avaya products have been tested and will be supported going forward. The scenarios include:

1. IP Office R9.1 and Avaya Aura Session Manager
2. IP Office R9.1 and BCM R6.0
3. IP Office R9.1, BCM R6.0 and CS1000 with Session Manager and NRS
4. IP Office R9.1 and Avaya Aura Communication Manager
5. IP Office R9.1 as SIP Gateway for BCM/Norstar
6. IP Office R9.1 and Meridian 1/CS1K via QSIG
7. IP Office R9.1 and Avaya SBCE

8.1   IP Office & Session Manager
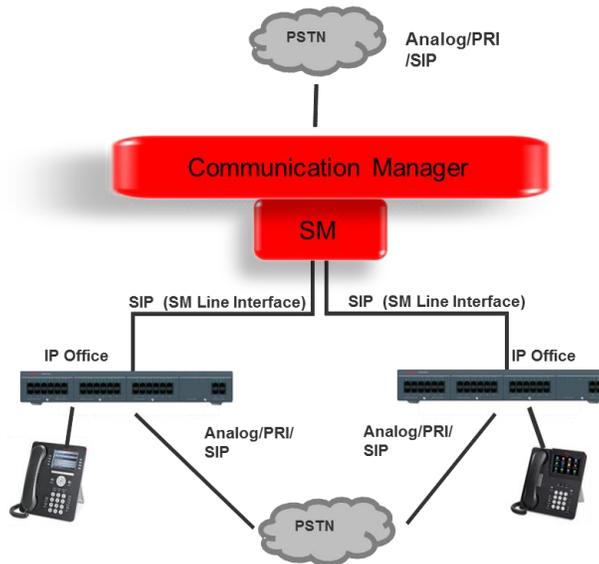
IP Office IP500V2 Essential or Preferred Edition can be deployed as an Enterprise Branch with Avaya Aura® Session Manager. Each of the IP Office nodes is connected to the Session Manager using the SIP protocol. On the IP Office, the connection to Session Manager is configured as an SM Line. This is a special type of SIP trunk on the IP Office. On the Session Manager, the connection to the IP Office is configured as a SIP Entity Link.

For IP Office Branch interoperability with Session Manager, please refer to the Product Offer document for IP Office R9.1 Deployed as a Branch.
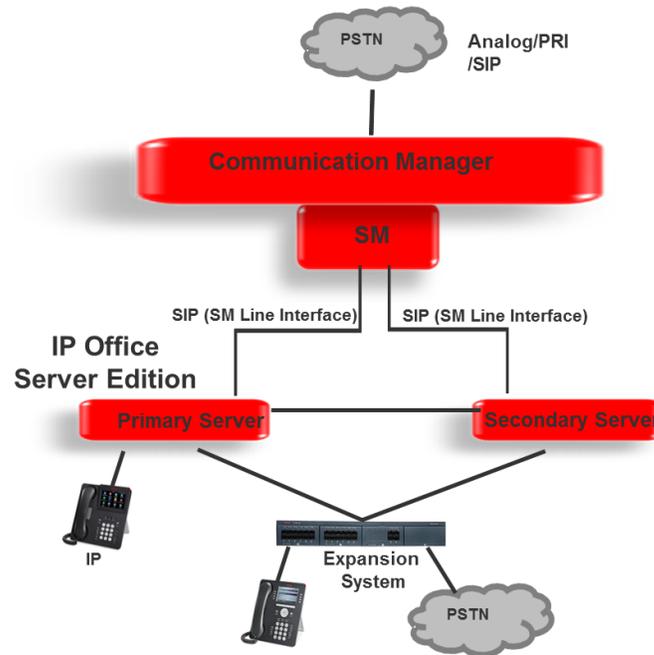
IP Office Server Edition supports SIP-based interoperability with the Avaya Aura® Session Manager, as well as with the Communication Manager through the Session Manager.

- **Note**: IP Office Server Edition is not deployed as a branch in Avaya Aura network and some IP Office Branch features are NOT supported. This includes System Manager, WebLM Centralized licensing, Centralized Aura voicemail, Centralized Aura users.

The SIP protocol is used for trunks between the Avaya Aura® Session Manager and the IP Office Server Edition Primary Server (and optionally Secondary Server). On the IP Office, the connection to Session Manager is configured as an SM Line. This is a special type of SIP trunk on the IP Office. On the Session Manager, the connection to the IP Office is configured as a SIP Entity Link. The connections between the IP Office nodes are according to the Server Edition Architecture.

The advanced feature set of Server Edition multi-node network is available between the IP Office nodes.

Only the Primary Server (and optionally Secondary Server) have an SM Line connection to Session Manager. Server Edition Expansions do not connect to Session Manager directly but only indirectly through the Server Edition Primary Server or Secondary Server. SM Line connections to Session Manager from both the SE Primary and Secondary servers are supported for redundancy. Session Manager views the whole multi-node Server Edition system as one remote system and not as multiple different systems.

- **Protocol Support:**
    - IP Office to SM: SIP
    - IP Office to IP Office: H323 - SCN Networking
- **Platform Requirements**
    - **IP Office**
        - **Release**: IP Office R9.1
        - **Edition**: Server Edition
    - **Session Manager**
        - **Release:** SM 6.3.8

- **Centralized Voicemail**: Server Edition Centralized Voicemail for all nodes in Server Edition network.
- **Phones**: All phones supported on the individual call servers and releases including Avaya IP Phone(H323), Avaya Digital phones, BCM 7000 Series Digital phones, BCM1100/1200 Series IP Phones (SIP), DECT R4 and Analog phones.
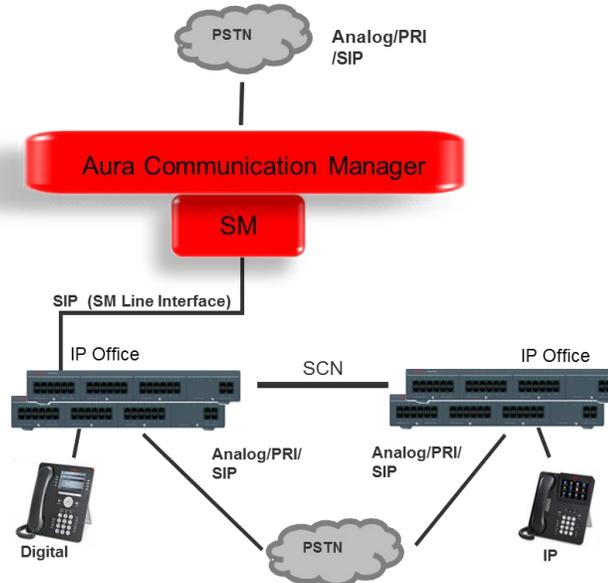
An IP Office SCN deployment can interoperate via SIP with an Avaya Aura® Session Manager, as well as with a Communication Manager through the Session Manager.

NOTE: In this SCN deployment, some IP Office Branch features are NOT supported. This includes System Manager, WebLM Centralized licensing, Centralized Aura voicemail, Centralized Aura users.

The SIP protocol is used for a trunk between the Session Manager and one IP Office node through which the SCN network is connected to the SM. On the IP Office node, the connection to Session Manager is configured as an SM Line. This is a special type of SIP trunk on the IP Office. On the Session Manager, the connection to the IP Office is configured as a SIP Entity Link. The IP Offices are connected to each other in an SCN network and can use advanced SCN feature set between each other.

Only one of the SCN-networked IP Office nodes has an SM Line connection to Session Manager. The rest of the SCN-networked IP Office nodes do not connect to Session Manager directly but only indirectly through that one node. Session Manager views the whole multi-node SCN network as one remote system and not as multiple different systems.

- **Protocol Support:**
    - IP Office to SM: SIP
    - IP Office to IP Office: H323 - SCN Networking
- **Platform Requirements**
    - **IP Office**
        - **Release**: IP Office R9.1

- **Edition**: Essential, Preferred
  - o **Session Manager**
    - **Release:** SM 6.3.8
- **Centralized Voicemail**: Centralized Voicemail Pro for all IP Office systems in the SCN network. Centralized Aura Voicemail is not supported for IP Office systems in the SCN network.
- **Phones**: All phones supported on the individual call servers and releases including Avaya IP Phone(H323), Avaya Digital phones, BCM 7000 Series Digital phones, BCM1100/1200 Series IP Phones (SIP), DECT R4 and Analog phones.

8.2 BCM and IP Office
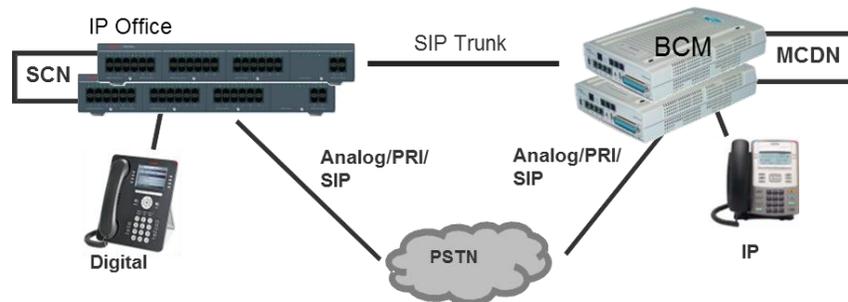
The SIP interoperability support between IP Office and BCM50/450 allows customers to migrate a network of BCM step by step to an IP Office SCN or Server Edition network.

- **Protocol Support:**
  - o IP Office to BCM: SIP
  - o BCM to BCM: SIP or SIP/MCDN
  - o IP Office to IP Office : H323 – SCN or SIP
  - o It is not possible to network IP Office and BCM via the MCDN or SCN protocol directly.
- **Platform Requirements**
  - o **IP Office**
    - **Release**: IP Office R9.1
    - **Edition**: Essential, Preferred, Advanced and Server Edition
  - o **BCM**
    - **Release:** BCM50 and BCM450 R6.0
- **Centralized Voicemail**:
  - o The IP Office system may use a centralized Voicemail PRO system in the SCN network
  - o The BCM systems may use a centralized voicemail within the BCM MCDN network.
  - o Centralized Voicemail across IP Office and BCM systems is not supported.
- **Phones**: All phones supported on the individual call servers and releases including Avaya IP Phone(H323), Avaya Digital phones, BCM 7000 Series Digital phones, BCM1100/1200 Series IP Phones (SIP), DECT R4 and Analog phones.

The advanced feature set of IP Office SCN Networking is available between the IP Office and BCM MCDN Networking features are available between BCM. Between the BCM and IP Office the standard SIP feature described below is supported.

8.3   IP Office, BCM and CS1000
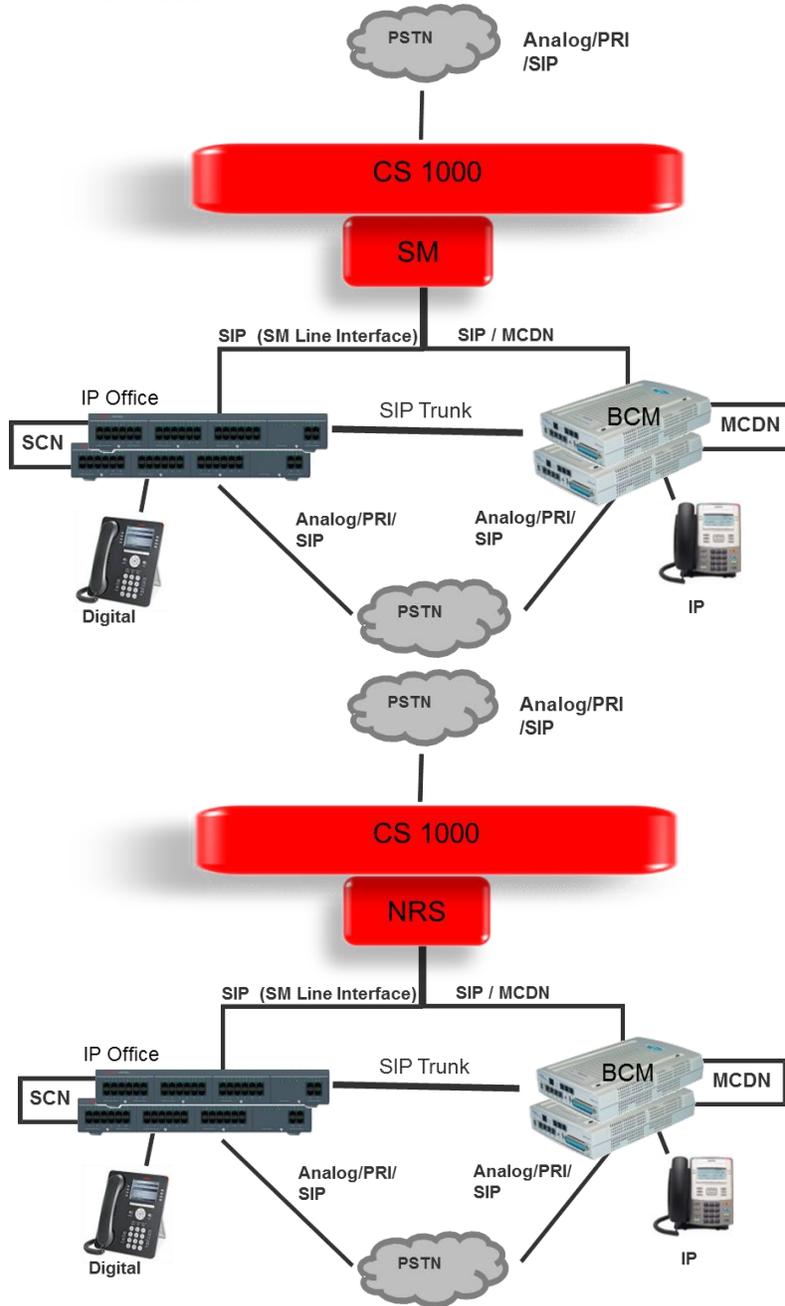
This configuration allows migrating a network of BCM and CS1000 to the IP Office step by step by adding IP Office systems to it.

- **Protocol Support:**
  - o   IP Office to BCM: SIP
  - o   IP Office to CS1000: SIP
  - o   IP Office to IP Office: SIP or H323 - SCN Networking
  - o   BCM to BCM: SIP or SIP/MCDN
  - o   BCM to CS1000: SIP or SIP/MCDN

    NOTE: *IP Office to CS1000 using H.323 is not supported.*

- **Platform Requirements**
    - o **IP Office**
        - ▪ **Release**: IP Office R9.1
        - ▪ **Edition**: Essential, Preferred, Advanced and Server Edition
    - o **BCM**
        - ▪ **Release:** BCM50 and BCM450 R6.0
    - o **CS1000**
        - ▪ **Release:** CS1000 R7.6 with Session Manager
- **Centralized Voicemail**: Centralized Voicemail for all IP Office system in the SCN network, BCM system may use centralized voicemail of the CS1000. IP Office system cannot use centralized voicemail of CS1000.
- **Phones**: All phones supported on the individual call servers and releases including Avaya IP Phone(H323), Avaya Digital phones, BCM 7000 Series Digital phones, BCM1100/1200 Series IP Phones (SIP), DECT R4 and Analog phones.

8.4   IP Office & Communication Manager Interop
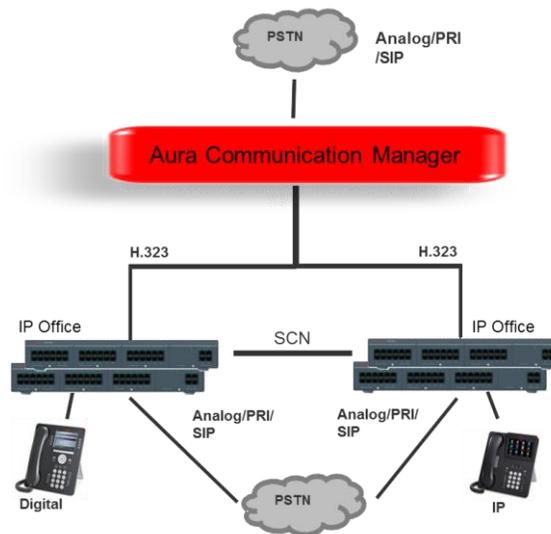
The H323 protocol is used for trunks between the IP Office nodes and the CM. The IP Offices are a network of SCNs and can use advanced SCN feature set between each other.

- **Protocol Support:**
    - o IP Office to CM: H.323
    - o IP Office to IP Office: H323 - SCN Networking
- **Platform Requirements**
    - o **IP Office**
        - ▪ **Release**: IP Office R9.1
        - ▪ **Edition**: Essential, Preferred, and Server Edition
    - o **Communication Manager**
        - ▪ **Release:** CM 6.3.8
- **Centralized Voicemail**: Centralized Voicemail for all IP Office systems in the SCN network

- **Phones**: All phones supported on the individual call servers and releases including Avaya IP Phone(H323), Avaya Digital phones, BCM 7000 Series Digital phones, BCM1100/1200 Series IP Phones (SIP), DECT R4 and Analog phones.

The advanced feature set of SCN Networking is available between the IP Office nodes.

NOTE: H.323 trunk interoperability between IP Office and CM was supported historically. However for new deployments, IP Office interoperability via SM Line to Session Manager model is recommended.

8.5 IP Office as SIP Gateway for BCM/Norstar
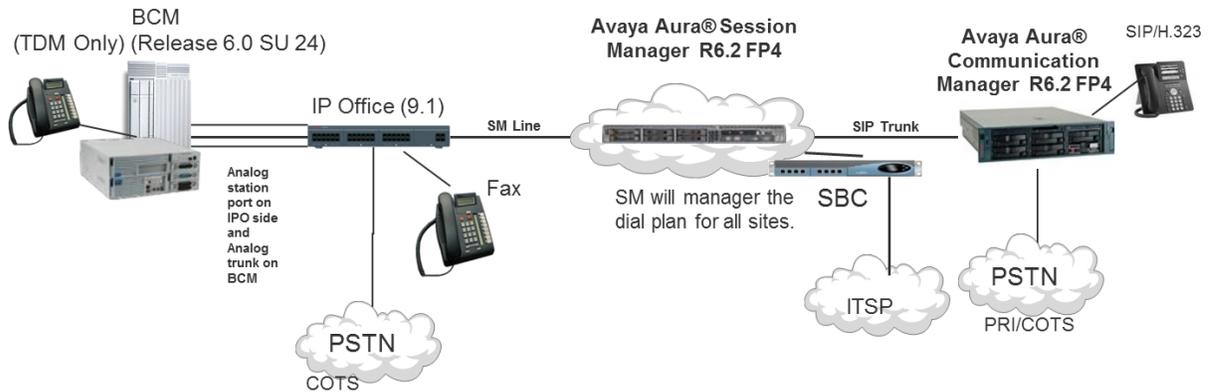
IP Office R9.1 introduces a new deployment scenario for IP Office, where IP Office acts as a SIP Gateway for a Nortel BCM and/or a Norstar telephony system. The following use cases are supported:
- Incoming call from SIP carrier —> SBC —> Session Manager —> IP Office V2 Gateway —>BCM (Via Analog) —>Digital Phone
- Outbound call from Digital Phone —> BCM —>IP Office V2 Gateway —> Session Manager —> SBC —> SIP Carrier\
- Outbound call from Digital Phone —> BCM —>IP Office V2 Gateway —> Session Manager —> CM —> H.323 Endpoint
- Outbound call from Digital Phone —> BCM —>IP Office V2 Gateway —> Session Manager —> IP Office V2 Gateway in second store —> BCM—> Digital Phone
- Outbound call from Digital Phone —> BCM —>IP Office V2 Gateway —> IPO CO trunk (when the 'SM Line' connection to Session Manager is down) —> PSTN
- Analog Phone —> BCM->IP Office V2 Gateway —> Session Manager —> SBC —> SIP Carrier
  Fax —> IP Office V2 Gateway —> Session Manager —> SBC —> SIP Carrier

8.6 IP Office and Meridian 1/CS1K via QSIG

IP Office R9.1 introduces support for PRI connectivity between IP Office and Meridian 1/CS 1000 via QSIG.

Where leased line circuits are used within a private networking scenario, E1 or T1 interfaces are typically configured to use QSIG signaling between sites. QSIG provides a level of voice feature transparency between PBXs and is the favored signaling standard within multiple vendor and international voice networks. The IP Office E1 or T1 module terminates a QSIG connection with a 120 ohm RJ45 interface.

IP Office supports the following QSIG services across this network:

- Simple Telephony Call/Basic Call
- Circuit Switched Data Call/Basic Call

- Called/Calling Line ID Presentation
- Called/Calling Name Presentation
- Message Waiting
- Transfer

This IP Office R9.1 QSIG interoperability has been tested with M1/CS1K Release 22 and higher.

8.7 IP Office and Avaya Session Boarder Controller for Enterprise (SBCE)

The following describes the interoperability testing between IP Office R9.0 and the Avaya SBCE R6.3. The scope of testing included both IP500 V2 and Server Edition/Virtualized Server Edition, SIP endpoints as IP Office Remote Workers (RW), various IP Office Branch deployments, Dual ASBCE (High Availability Deployment), and both RTP and SRTP. TCP and UDP are supported as they were in IP Office R9.0

Deployment of 1 SBC serving multiple IP Offices for one or multiple customers at a single site is supported; however, multiple IP Offices for a single customer on multiple sites is not currently supported.

- Supported Endpoints (Remote Worker over SBC deployment)
    - Avaya Communicator for Windows/iPad
    - Avaya one-X Mobile Preferred for IP Office for Android
    - Avaya one-X Mobile Preferred for IP Office iPhone
    - 11xx/12xx SIP sets
    - E129 sets
- Excluded Endpoints
    - B179 conference unit
    - Culebra sets E159, E169
    - Radvision video endpoints (XT room systems and Elite MCU systems)
    - Mac Video Softphone
    - DECT D100

Interoperability with the Avaya SBCE R6.3 and IP Office R9.1 includes the following use cases:

- Local SIP trunk - SBC - IP Office - IP Office user
- Local SIP trunk - SBC - IP Office - Session Manager – Centralized users (in sunny-day)
- Local SIP trunk - SBC - IP Office - Centralized users (in rainy-day)
- Local SIP trunk - SBC - IP Office - Session Manager - users in headquarters or other enterprise sites
- Central SIP trunk - SBC - SM - IP Office - IP Office user
- Central SIP trunk - SBC - SM - Centralized users
- IP Office remote worker - SBC - IP Office - Session Manager -users in headquarters or in other enterprise sites
- IP Office remote worker - SBC - IP Office - Session Manager -Centralized users in a Mixed branch (in sunny-day)
- IP Office remote worker - SBC - IP Office - Centralized users in a Mixed branch (in rainy-day)
- IP Office remote worker - SBC - IP Office - Session Manager -voicemail services on Avaya Aura® Messaging/ Modular Messaging.
- Avaya Aura remote worker - SBC - Session Manager - IP Office - IP Office user
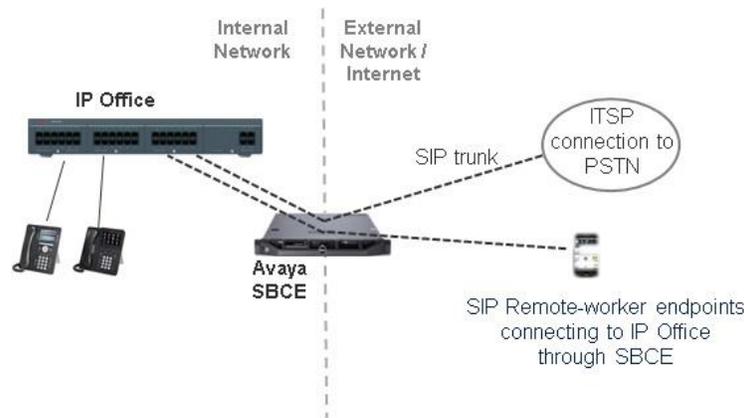
8.8   SIP Standard Call Feature Support

For the standard SIP networking connections described above the following call features are supported:

- **Standard Call Features**
  - o   Basic Call Completion
  - o   Handling of busy called party
  - o   DTMF and ring-back tone
  - o   Hold and Retrieve
  - o   Call Waiting presentation
  - o   Called Number display
  - o   Calling number and name display
  - o   Abandoned call
- **Call Redirection**
  - o   Call Forward (Forward ALL, Forward Busy, Forward No Answer)
  - o   Call Transfer (Attended and Unattended)
  - o   Call Redirection (To PSTN, Abandoned, Busy)
- **Conferencing**
  - o   AdHoc and MeetMe conferencing
- **PSTN Toll Bypass** – Toll Bypass allows each system to leverage the trunk connections of the other system in the network to avoid international and long distance charges.

8.9   Video Collaboration Solution for IP Office

For Scopia 8.0, the video solution has been broken into small and medium deployment scenarios. The small solution using Scopia 8.0 firmware will be ready for 8.1 FP1. The medium solution has been tested and works with release 8.1 FP1 with some exceptions for Flare to support Pin codes when connected to IP Office. IP Office R9.1 will provide the needed support for this to remove this exception.

The new XT5000 Video Server for IP Office is now available and works with IP Office Release 8.12 FP1 – SP5 and R9.1. This variant of the XT5000 platform is integrated to IP Office and must register to the IP Office as an Avaya SIP endpoint for the Video Server component to function (MCU). Release 9.1 includes the fixes from R8.1 SP5 and some additional features to support Communicator functionality when used with the Radvision Elite MCUs.

IP Office R9.1 will support:
- Video Collaboration Solution for IP Office

- XT5000 Video Server for IP Office with 3.2 Firmware (must register with IP Office for MCU to function)
  - XT5000 Endpoint w/embedded video server for IP Office with 3.2 Firmware (must register with IP Office for MCU to function)
- Scopia XT5000 Endpoint with embedded MCU with 3.2 firmware
- Scopia XT4200 Endpoint with 3.2 firmware
- Scopia XT240 Endpoint with 3.2 firmware (requires a 3rd party SIP license)
- Scopia Elite XT6000 with 7.7 firmware

See the Video Collaboration Solution for IP Office Offer Definition for more details here.

9 Demo Kits

9.1 Power Demo Kit

The IP Office Power Demo kit provides a fully licensed and functional IP Office system for use in demonstrations and is offered to Partners at a substantially reduced cost. For added simplicity, there is a custom configuration file created specifically for the Power Demo system. There is also an option to purchase a custom-made case to protect the system and make it easier to bring to your customer.

The Power Demo kit is being updated with R9.1 to include R9.1 licenses. To upgrade an existing IP Office Power Demo system to R9.1, complete Appendix B of the IP Office Anywhere and Power Demo Global Resource Guide to secure the upgrade license. The IP Office Anywhere and Power Demo Global Resource Guide document can be found on the Avaya Sales Portal for SME under "Selling Tools". Due to lag times with stocking and testing, the R9.1 IP Office Power Kits demo kit will be available in the first quarter of calendar 2015.

9.2 Anywhere Demo

The Anywhere Demo is a downloadable software package, which provides a fully functional IP Office system or Server Edition system that runs on a laptop, allowing a sales person or sales engineer to conduct an IP Office demo virtually anywhere. The software is pre-configured for added simplicity, but it also allows customization of settings when a more specialized demo is required. The system is designed to work with just a PoE switch and IP Phones.

For those requiring a more sophisticated demo capability, the Anywhere Demo will support Wireless Access Points (WAP)-not provided for iPad and mobility use cases, and SIP trunking for external connectivity. An updated version of the Anywhere Demo software incorporating the enhancements being delivered in IP Office R9.1 as well as the option to demonstrate a multi-node Server Edition is planned for availability at the same time as the IP Office software GA.

For additional details on the Anywhere Demo, see the Avaya Portal under Sales Tools/Small and Midmarket Demo Platforms.

10 Logistics and Ordering

10.1 IP Office R9.1 DVD Sets

Avaya will supply DVD media to Avaya Authorized Distributors that have a current contract with Avaya. Avaya will not supply DVDs directly to reseller Partners. Partners are required to order DVD media from their respective Avaya Authorized Distributors.

The following DVD sets are available with Release 9.1 of IP Office:

Material Code	SAP Description	IP Office Basic, Essential & Preferred Editions	IP Office Server Edition / IP Office Select	IP Office Applications Server (for Linux)	IP Office Applications Server (Windows) [1]
700508797	IP OFFICE R9.1 USER/ADMIN DVD	✓	X	X	✓
700508798	IP OFFICE/IP OFFICE-SL R9.1 LX INSTALL DVD	X	✓	✓	X
700508799	IP OFFICE/IP OFFICE-SL R9.1 VRTLZDLX INSTALL DVD	X	✓	✓	X

NOTE: It may be acceptable to duplicate this media but your contract with Avaya needs to be reviewed in the first instance. If permitted, copies may then be made which must contain an Avaya Proprietary Notice on the DVD.

- *The USER/ADMIN SET and Voicemail Pro will be delivered in a single DVD set. It also includes documentation.*
- *The Linux Installation DVD includes Server Edition, IP Office Select and Applications Server Linux images. The software selection is done as part of the ignition process during installation.*
- *The Virtualized Linux DVD includes Server Edition, IP Office Select and Applications Server Linux images. They are ready to be deployed on a VMware equipped server. For more details see the section on Virtualization.*
- *[1]The Applications Server DVD is specifically for supporting applications on third party servers deployed with Microsoft operating system instead of a Linux operating system.*

10.2 IP Office System SD cards

Avaya will supply SD card media to Avaya Authorized Distributors that have a current contract with Avaya. Avaya will not supply SD cards directly to reseller Partners. Partners are required to order SD card media from their respective Avaya Authorized Distributors.

System SD cards supplied by Avaya contain all the system software required for the IP500 V2, including expansion module and phone firmware binaries. An update to the latest IP Office software release may be required to have the latest software on the SD card for the installation. This can be done in IP Office Manager. Please check for the latest available software on http://support.avaya.com/.

The only thing that makes an IP500 V2 a R9.1 vs. a R9.0 system is the files on the SD card, which can be updated. Upon GA, although Avaya updates the software load being burned on SD cards, these updates take some time to get through the distribution chain as distributors and partner inventories get replenished with the new software load. The material code of the SD card doesn't change.

Partners are able to continue selling R9.0, should they wish to do so. When they do the initial installation they can install whatever release they are standardized on. The process we have for IP Office affords them the flexibility not to be tied to the date when we introduce a new release.

For IP Office R9.1 purchases, standard installation practice is to always load the latest version of software available on Avaya support of whatever release one wishes to use on the system. This is recommended since from the time we shipped the SD card we may have released a Service Pack on the current release so it would always be prudent for the partner to load the latest version.

This approach of being able to treat the SD card as a generic entity, providing the flexibility to install whatever release is required, makes it easier. Partners need not worry about changing material codes, about managing stock of different SD cards, about holding off an order until the GA date because they want to ensure that they receive the new release, etc.

The following System SD cards are available and are independent of a particular release of IP Office.

Material Code	SAP Description
700479702	IP OFFICE IP500 V2 SYSTEM SD CARD A-LAW
700479710	IP OFFICE IP500 V2 SYSTEM SD CARD MU-LAW
700479728	IP OFFICE IP500 V2 SYSTEM SD CARD PARTNER
700500948	IP OFFICE IP500 V2 SYSTEM SD CARD NORSTAR

10.3 IP Office Release License

To upgrade existing IP Office systems to IP Office Release 9.1 a release upgrade license is required. Upgrade licenses are purchased separately. Ordering codes are summarized below.

> *NOTE: These codes do not apply to IP Office Select. Please refer to the Upgrade Section and Appendix B for additional details on purchasing the migration to IP Office Select.*

Material Code	SAP Description
339106	IP OFFICE R9.1 UPG SML ADI LIC
339105	IP OFFICE R9.1 UPG ADI LIC
339107	IP OFFICE R9.1 UPG SE ADI LIC

The following order codes specific to Russia are listed separately:

Material Code	SAP Description
339108	IP OFFICE R9.1 UPG RUSSIA ADI LIC

The following order codes are specific to Branch systems using nodal PLDS licenses:

Material Code	SAP Description
339222	IP OFFICE R9.1 UPG SML PLDS LIC
339221	IP OFFICE R9.1 UPG PLDS LIC

The following order code is specific to Branch systems using centralized licenses. Each node of a centralized solution requires one of these licenses.

Material Code	SAP Description
339223	IP OFFICE R9.1 BRANCH CENTRL UPLT PLDS LIC

For additional details on upgrading an IP Office or B5800 Branch Gateway to an IP Office R9.1 Enterprise Branch, please refer to the Release Documentation section for details to download the IP Office Release 9.1 deployed as a Branch Product Offer.

10.4 Software Upgrade Process

The process for upgrading the different IP Office platforms from previous releases to Release 9.1 is described in the Release 9.1 Technical Bulletin where all software upgrades are addressed.

To find the latest IP Office technical bulletin after the release is available:

1. Go to http://support.avaya.com/
2. If not previously selected, select IP Office, Select "products" or "change product" from the left menu and type IP Office.
3. Click "Technical Tips" under "Documentation"
4. Select "IP Office"
5. Select "9.1" under "Select a Release"

10.5 Software Pricing

New versions and releases of IP Office core and applications software are subject to two charges:
*   A charge for the delivery of media and the associated handling costs
*   A license fee for the activation of specific new features introduced with this version of IP Office software and purchasing of the required upgrade/migration licenses.

10.6 IP Office Software Applications and License Key Process

General Available (GA) IP Office software applications are orderable by Avaya Partners from their Avaya Authorized Distributor. Avaya Partners must contact their respective distributors directly to purchase all IP Office Software applications. Each distributor implements a customized IP Office software purchasing and distribution process for its network of Avaya Partners. These distributor specific internal processes are not covered by this document.

11 Avaya Global Services

Avaya IP Office Support Services (IPOSS) is the global service offer for IP Office R9.1. Avaya IP Office Support Services offers a variety of service coverage options designed to maintain and support customers' IP Office, including the virtualized product offering, contact center, and distributed branch solutions. For centralized branch solutions, the Avaya Support Advantage is the global service offer (not IPOSS).

For additional details of the new Avaya IP Office Support Services offering, please refer to the Global Offer Definition document and other launch materials located on the Avaya Sales and Partner Portal:
IPOSS offer

11.1 Avaya Maintenance, Lifecycle and Warranty Information

Avaya IP Office Support Services complement standard Avaya maintenance, lifecycle and warranty policies that are posted on support@avaya.com

Avaya Proprietary and Confidential

12 IP Office Credentials and Avaya Learning Training

Avaya Learning is pleased to announce new curriculum in support of **Avaya IP Office™ Platform 9.1**.
Avaya IP Office™ Platform 9.1
Avaya IP Office™ Platform 9.1 delivers the following new features for Customers and Partners including:
☐ Increased security, scalability and resiliency for the Midmarket

☐ Web collaboration

☐ Strengthened support in Cloud, Branch and Call Center environments

Sales Curriculum
Want to learn more about selling **Avaya IP Office™ Platform 9.1**? The following Avaya sales training offers are now available on the Avaya Learning Center. All are no charge web based offers and are considered a must have for anyone looking for more information on how to position the business impact and value with Avaya customers.

Offer Code	Title
2S00012W	Small and MidMarket Communications - Avaya IP Office™ Platform 9.1 and 9.1 Select - Overview • Web Based (.5 hours)
2S00013W	Small and MidMarket Communications – Avaya IP Office™ Platform 9.1 and 9.1 Select- Core Components • Web Based (1.1 hours)
2S00014W	Selling Avaya IP Office™ Platform 9.1 and 9.1 Select • Web Based (.75 hours)
2U00020W	Selling Avaya IP Office™ Platform as a Branch • Web Based (1 hour)

 Design Curriculum
Sales Engineers looking to have meaningful conversations with their customers interested in **Avaya IP Office 9.1** in a branch deployment should also set aside time for this no charge web based offer now available on the Avaya Learning Center.

Offer Code	Title
3U00110W	Designing IP Office 9.1 in a Branch Deployment • Web Based (1.5 hours)

Implementation and Maintenance Curriculum
Technical training for **Avaya IP Office™ Platform 9.1** implementation and maintenance is available thru the Avaya Learning Center in a variety of formats. Avaya Associates, Business Partners and Customers can chose the option that best fits their business needs. Those with experience in previous releases of Avaya IP Office™ Platform will want to take advantage of the following "What's New" offers available for free on the Avaya Learning Center.

Offer Code	Title
0M00010V	What's New in Avaya IP Office™ Platform 9.1 Deep Dive • Targeted for individuals with experience on earlier release • Live vILT (6 hours) • Attend one of 3 sessions December 10, 11, 12
0M00010O *(late Dec)*	What's New in Avaya IP Office™ Platform 9.1 Deep Dive • Targeted for individuals with experience on earlier release

Avaya Proprietary and Confidential

Offer Code	Title
	• Recorded vILT (6 hours) • For those who cannot attend live session

The following Knowledge Access offers delivered in the Avaya Learning Virtual Campus include the "What's New" content referenced above. This information is available now on the **Avaya IP Office™ Platform Supplemental Knowledge** floor.

Offer Code	Title
0S00010E	Knowledge Collection Access: Midmarket Implementation and Support
10S00005E	Knowledge Access: Avaya IP Office™ Platform Implementation
5S00004E	Knowledge Access: Avaya IP Office™ Platform Support

In mid-December Self-directed content located on the Implementation and Support floors associated with the above Knowledge Access offers and those referenced below will align with **Avaya IP Office™ Platform 9.1.**

Offer Code	Title
8U00020E	Knowledge Access: Avaya IP Office™ Platform Deployed as a Branch Implementation and Support
8S00010E	Knowledge Access: Avaya IP Office™ Platform Contact Center Implementation and Support

Students enrolled in these comprehensive offers have access to all **Avaya IP Office™ Platform 9.1** updates thru their Knowledge Access enrollment.
For additional information and to enroll in one or more **Avaya IP Office™ Platform 9.1** training offers now available visit the Avaya Learning Center, www.avaya-learning.com.
Avaya Midmarket Solutions Credentials
The following Avaya Professional Credentials are available in support of Avaya Midmarket Solutions and Avaya IP Office™ Platform.

Credential Title
APSS - SME
APSS – Contact Center Solutions for Avaya IP Office
AIPS – Avaya IP Office™ Platform
ASPS – Avaya IP Office™ Platform Deployed As a Branch
ASPS – Avaya IP Office Contact Center
ACSS - SME Communications

In concert with the new **Avaya IP Office™ Platform 9.1** curriculum new Online Tests and Exams become available for the following credentials January 2015 and existing Online Tests/Exams retire.

Credential	Online Test/Exam
AIPS – Avaya IP Office™ Platform	Avaya IP Office™ Platform Implementation Test #4001 • *(Available mid Jan 2015)* Avaya IP Office Implementation Test #4000 • *(Retires late Feb 2015)*
ACSS - SME Communications	Avaya IP Office™ Platform Configuration and Maintenance Exam #3002 • *(Available late Jan 2015)* Avaya IP Office Configuration and Maintenance Exam #3001 • *(Retires late Feb 2015)*

Avaya Proprietary and Confidential

A refreshed Online Test, **Avaya IP Office™ Platform Deployed as a Branch Implementation and Maintenance Test (#5103)** becomes available late December 2014 in support of the ASPS – Avaya IP Office™ Platform Deployed As a Branch credential.

Students in progress towards completing the above credentials need to take these updates into consideration.

For additional information on Avaya Professional Credentials available in support of Avaya Midmarket Solutions and Avaya IP Office™ Platform visit the credential curriculum maps on the Avaya Learning Center, www.avaya-learning.com.

Questions?
Avaya Learning Help Desk:
North America: **+1 866-Avaya-54 (+1 866-282-9254)**
Outside North America: **Regional Local Number Listing**

13 List of New and Updated IP Office R9.1 Material Codes

All pricing of IP Office Release 9.1 material codes will be sent to distribution partners through the normal Price List Administration Tool (PLAT) procedure.

In the majority of cases, IP Office software license ADI and PLDS material codes from R9.0 continue to be used for R9.1 but will have a description change from R9.0 to R9.x. New software license material codes for R9.1 are listed in section 16; Appendix B. IP Office Select R9.1 PLDS software license material codes are all new.

IP Office R9.1 will continue to support the ADI (traditional SME license type) software material codes

The use of PLDS licensing will be expanded in R9.1 compared to R9.0.

- R9.0 introduced Product Licensing and Delivery System (PLDS) codes for IP Office deployed in the Branch, aligned with the standard Avaya PLDS Enterprise license model. The Avaya quote tools will default to PLDS software material codes for any R9.1 branch quotation.

- The use of PLDS codes has been expanded in IP Office R9.1 to include new installations where either IP Office Contact Center or Avaya Contact Center Select are being quoted along with the IP Office materials.

- The new IP Office Select only uses PLDS codes.

IP Office Release 9.0 will remain available for sale, with existing codes. Release 9.0 codes and pricing will remain available in Avaya commercial tools as long as the release is available for sale.

Contact your Distributor for full R9.1 pricing details.

Below is the list of new DVD and hardware material codes specific to IP Office R9.1.
New software license material codes for R9.1 are listed in section 16, Appendix A.

Material Code	Description	Basic Edition, PARTNER® / Norstar™ Modes	Essential Edition & Preferred Edition	Server Edition	Virtualized IP Office	IP Office Select
700508797	IP OFFICE R9.1 USER/ADMIN DVD	✔	✔	X	X	X
700508798	IP OFFICE/IP OFFICE-SL R9.1 LX INSTALL DVD	X	X	✔	X	✔

Material Code	Description	Basic Edition, PARTNER® / Norstar™ Modes	Essential Edition & Preferred Edition	Server Edition	Virtualized IP Office	IP Office Select
700508799	IP OFFICE/IP OFFICE-SL R9.1 VRTLZDLX INSTALL DVD	X	X	X	✔	✔
700507449	IP OFFICE UC Mod V2	X	✔	X	X	X
700509377	IP OFFICE IP500 Trunk Card T1(J) PRI Dual	✔	✔	✔	✔	✔
The following new Linux servers are replacement for the R210 model of server. They will be phased in as soon as available, shortly after the GA of R9.1. Watch for further communication regarding the exact availability date.						
380223	R220 II XL SRVR IP OFFICE UC	X	✔	✔	X	✔
380224	R220 II XL SRVR IP OFFICE FRANCE TELECOM	X	X	✔	X	✔
380225	R220 II XL SRVR IP OFFICE SE EXP	X	X	✔	X	✔

13.1 New or modified configuration rules

IP Office R9.1 will be included in ASD and the Avaya One Source Configurator. The following is summary of new or modified configuration rules:

- Support for IP Office R9.1 and IP Office Select R9.1 offers
- Support for IP Office Select R9.1 capacity increases

  NOTE: IP Office Select Release 9.1 can support up to 150 nodes. Due to the current configurator limitation the maximum number of nodes that can be configured using the ASD Desktop configurator is 32. And the maximum number of nodes that can be configured using the web based One Source Configurator is 50.

  Use the following instructions to create designs with more than 50 nodes:

  - Create a One Source Configurator quote with 50 nodes.
  - Manually create additional Merchandise quotes in Order Centre for the additional nodes, using the configured quotes as examples.
  - Manually create EC Services quotes for the services required by the contents of the merchandise quotes.
  - Set the MEA ID on the merchandise and services quotes to match the master quote from the One Source Configurator.
  - Set the Opportunity ID on the merchandise and services quotes to match the master quote from the One Source Configurator. This is required to keep the quotes together as a single opportunity in order to enable Special Bids.

  Contact your Sales Engineer if you need assistance in completing large IP Office designs with more than 50 nodes.

- IP Office for SMB
  - New System and IP Office for Branch
  - New System model views have been merged into a single view which is now IP Office for (SMB or Branch) New System.
  - The deployment type i.e. SMB or Branch will be determined based on the selections made for the design.
- Addition of an "I'm not sure" option for the BRANCH DEPLOYMENT in response to the question l "Is this configuration to be deployed as an IP Office Branch?" This allows the configurator to determine the correct deployment type i.e. Branch or SMB deployment based on the selections made for the design.

- Addition of an "I'm not sure" option for the GROUP COLLABORATION SUITE in response to the question "Indicate the Group Collaboration Suite license needed for this location (Voicemail Pro requires Preferred Edition). This allows the configurator to determine the correct option for the design and output the Essential Edition license or Preferred Edition with the Essential Edition license based on the selections made for the design.
- GROUP COLLABORATION SUITE. "Advanced Edition" has been removed as Advanced Edition is not available in the R9.1 release.
- **The configuration will default on the following license types:**
  - SMB / Mid-Market – ADI
  - Branch PLDS
  - SMB / Mid-Market when quoted with either IP Office Contact Center or Avaya Contact Center Select – PLDS
  - IP Office Select – PLDS
- In addition, for those partners that wish to configure SMB / Mid-Market quotes with PLDS licensing, there will be an option to override the default ADI licenses and provision the appropriate PLDS licenses.
- USER PRODUCTIVITY SUITE:
  - Added Web Collaboration Users question – new application introduced with R9.1
  - Added Video Softphone for MAC Users question – new softphone option introduced with R9.1
  - Removed Customer Service Agents question as Advanced Edition is no longer offered in R9.1
  - Removed Customer Service Supervisors question as Advanced Edition is no longer offered in R9.1
- IP Office Contact Center Options:
  - Avaya Contact Center Select 6.4.2 offer. Avaya Contact Center Select enablement license provisioned whenever it is configured with IP Office.
  - Addition of the Dell R620 as a server option for IP Office Contact Center, which will support up to 250 agents.

NOTE: Changes resulting from Advanced Edition removal in R9.1
CCR is no longer supported in R9.1 with the removal of Advanced Edition. Avaya will now be promoting IP Office Contact Center and Avaya Contact Center Select as the Contact Center solutions for IP Office.

As a result of this change, R9.1 Preferred Edition will now come with VM Pro data base and Visual Basic Scripting (these were previously part of Advanced Edition). TTS and Contact Store will only be available to be ordered separately.

Someone upgrading from R9.0 to R9.1, who had Advanced Edition licensed on their R9.0 system, will continue to have the 8 ports of TTS and Contact Recorder enabled on their R9.1 upgraded systems. These features were previously part of Advanced Edition. CCR will not function upon the upgrade as it is not supported in R9.1.

14 GRIP requests delivered in IP Office Release 9.1

The Global Requirements Integration Process, otherwise known as GRIP, was introduced at Avaya as a mechanism to capture the voice of Avaya's customers, partners, and employees to accelerate innovation which ultimately helps Avaya become a more responsive solution provider. GRIP is a partnership between Sales, Services, Product Management and Development groups so that Avaya can design, develop and deliver what our customers and the marketplace demands. GRIP is the only formal process at Avaya, where our customer and partner feature / function requests are documented in one location via the centralized GRIP tool and driven through an automated workflow process.

GRIP requests are often entered by Avaya associates on behalf of the business partner or customer or can be entered directly by the business partner. Entering a GRIP feature request ensures that the request is handled according to the defined GRIP workflow, ultimately resulting in a decision by the Avaya business unit responsible for the specific product.

To arrive at a decision on a GRIP request, the responsible Avaya business unit will assess the merits of the request in conjunction with the broader Avaya roadmap planning process. GRIP's that are approved for implementation are done so at the sole discretion of the Avaya business unit after reviewing the information provided in the GRIP. Submitting a GRIP should not in any way be interpreted as an indication or an expectation that the feature request will be accepted for implementation. Only a subset of submitted GRIPs is approved for implementation. The number of GRIP requests included in any product release will vary according to the business objectives of the specific release and the merits of GRIPs reviewed for potential inclusion into the release.

Please refer to the following URL for additional information regarding the GRIP process or contact your Avaya sales representative for assistance.

http://spark4.avaya.com/Grip/index.asp

The GRIP request table below summarizes GRIP requests that have been implemented in the IP Office R9.1 program. **A total of 58 GRIPS have been identified as delivered in this release**. It is provided as a quick reference for the reader to identify whether a specific GRIP has been included in this product release.   It is not meant to replace the use of the GRIP tool which always provides the most up to date status information on any GRIP request.

Please note that Avaya business partners will only be able to view GRIP requests entered against their specific Partner Link ID.   If a GRIP was entered by an Avaya associate on behalf of a business partner or customer, please contact the Avaya associate for more details about the GRIP.

GRIP #	GRIP Request Title	Final GA Status	Additional Comments
486	Embedded Auto-Attendant integrated timeout	Implemented	Able to manually change the (ICR) routing of calls on buttons
845	Set Incoming Call Route Night Service	Implemented	Able to manually change the (ICR) routing of calls on buttons
2491	Be able to manually change the Incoming Call Route Destination, not only with Time Profile	Implemented	Able to manually change the (ICR) routing of calls on buttons
2928	SIP Based Paging Support	Implemented	Enable SIP third party endpoints (specific or general) to be members of page groups. This will allow external paging speakers or amplifiers to be integrated with IP Office telephone page zones.
3027	Addition of free-form for short codes	Partially Implemented	Support for addition of text for ARS and trunks in the 9.1 release.
3564	FSK MWI to Analog Ext	Implemented	Support message waiting indication for commercial off the shelf analog phones. Analog phones that support FSK MWI will provide an indicator on the phone, where the message waiting indication is coming from on-

GRIP #	GRIP Request Title	Final GA Status	Additional Comments
			site voice mail.
3705	Incoming call show name of caller, also during the conversation. Call log entry shows only the call number.	Implemented	Calling Party Name shall only be displayed in the call log if available at call setup
3909	Philippines locale	Implemented	Locale specific to Philippines
4824	Ring Back on one-X Portal	Implemented	
5313	HuntGroup Queue gadget for one-X Portal and Directory display	Implemented	
5539	Remote IP Set Time Server	Implemented	The administrator will be able to assign either the User or the Phone to a particular time zone.
5560	More destinations for the fallback night/out of service destinations in a group	Implemented	In order to eliminate all extra administration and management steps the Fallback destinations for HuntGroups will change to accept the same set of targets as an ICR
5565	Add Hostname as option to SNMP Trap destination	Implemented	Ability to configure an IP address of a hostname as an SNMP trap destination
5643	96xx Time Zone settings	Implemented	Able to set different timezones for groups of extensions based on location. Timezone, local time offset from UTC, automatic DST, Clock forward/back setting
5678	System Directory enhancement by adding an Override Restriction/Barring option for each entry	Implemented	Enhanced flexibility of deployment. Phones that have barred access often need to be used by authorized staff so an override would provide enhanced flexibility
6896	1XP account code gadget	Implemented	
7134	Upgrade one-X Portal	Implemented	
7279	SDP: silenceSupp attribute	Implemented	
8074	Request Account Code Enhancement	Implemented	
8321	Having IP Phones in two different Time Zones...	Implemented	Able to set different timezones for groups of extensions based on location. Timezone, local time offset from UTC, automatic DST, Clock forward/back setting

GRIP #	GRIP Request Title	Final GA Status	Additional Comments
8562	IP-Dect 3725 Call Log showing the calling party number and name	Implemented	
8753	Bypass Restrictions using Directory	Implemented	
8831	Suppress No Caller ID Alarm	Implemented	
9006	Ability to enter account codes via one-X Portal on incoming calls	Implemented	
9034	Avaya IP R4 Dect Handset issue	Implemented	
9109	Product Feature Improvements	Implemented	Manual override of time profiles. Hunt group call forwarding. MWI for other mailboxes. Enable authorization codes.
9232	Call Log entry only contains number without names	Implemented	
9499	Account Code input in one-X Portal for incoming or active calls	Implemented	
9602	Call Assistant/Outlook Plugin Prepopulate Server settings through Script file	Implemented	
9666	Ability to set correct local time for remote IP Phones	Implemented	Able to set different timezones for groups of extensions based on location. Timezone, local time offset from UTC, automatic DST, Clock forward/back setting
9940	Need different time zone for different extensions	Implemented	Able to set different timezones for groups of extensions based on location. Timezone, local time offset from UTC, automatic DST, Clock forward/back setting
10320	Enable SIP third party end-points for page groups	Implemented	Enable SIP third party endpoints (specific or general) to be members of page groups. This will allow external paging speakers or amplifiers to be integrated with IP Office telephone page zones. In a school for example, a page may be sent to several classroom phones simultaneous with overhead paging in the same area which may include washrooms, hallways, or additional speakers in the classroom.
10422	Allow IP DECT MultiMaster environment	Implemented	Mirror mode is enabled on base station, so we can have two base station masters, one active and one standby

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GRIP #	GRIP Request Title	Final GA Status	Additional Comments
10470	Allow multiple trunks in DECT R4	Implemented	Each master base station can have a primary and a backup connection to Avaya IP Office
10558	IP DECT Resiliency	Implemented	Addition of Dect 4 mirror mode and redundant PBX
10567	IP Office night switching enhancements	Implemented	Able to manually change the (ICR) routing of calls on buttons.
10752	Localization Czech/Slovak	Implemented	Locale parameters and end user application supported only, no documentation
10797	IP Office Server Edition Maximum LDAP import entries	Partially Implemented	Capacity increase from 5,000 to 7,500
11047	Software Distribution MSI für Desktop Clients	Implemented	
11066	Disable Connection Loss Popups in Lync	Implemented	
11122	Multiple time zones	Implemented	Able to set different timezones for groups of extensions based on location. Timezone, local time offset from UTC, automatic DST, Clock forward/back setting
11152	Multiple time zones	Implemented	Able to set different timezones for groups of extensions based on location. Timezone, local time offset from UTC, automatic DST, Clock forward/back setting
11153	one-X Portal not having queue monitoring like PM pro	Implemented	
11269	Message Waiting Indicator on analog phones	Implemented	
11352	Time Zone support for remote VPN phones	Implemented	Able to set different timezones for groups of extensions based on location. Timezone, local time offset from UTC, automatic DST, Clock forward/back setting
11545	one-X Mobile Activate external ringer with headset attached	Implemented	
11646	one-X Mobile needs seamless roaming between 3G and WiFi	Implemented	
12155	Ring-back feature missing from one-X Portal	Implemented	
12315	No system reset has to be necessary after installing SIP trunks or other settings	Implemented	
12635	IP DECT R4 Resiliency with IP Office	Implemented	Addition of Dect 4 mirror mode and redundant PBX

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GRIP #	GRIP Request Title	Final GA Status	Additional Comments
12773	Correct time in IP phone on diff. timezones	Implemented	Able to set different timezones for groups of extensions based on location. Timezone, local time offset from UTC, automatic DST, Clock forward/back setting
12847	Time Zone for Remote Extensions	Implemented	Able to set different timezones for groups of extensions based on location. Timezone, local time offset from UTC, automatic DST, Clock forward/back setting
12992	Able to see the SW level of an IP500 V2 chassis	Implemented	
13057	Softconsole - UCC Enhancement	Partially Implemented	
13073	IP OFFICE Web Managerie should be able to enter a new Directory post	Implemented	
13166	one-X Outlook IM Pop-Up Notification/Sound Notification Enhancement	Implemented	
13475	IP Office Time Zone Per User Setting Needed	Implemented	Able to set different timezones for groups of extensions based on location. Timezone, local time offset from UTC, automatic DST, Clock forward/back setting
13591	Call Redirection with use of 302 Moved Temporarily over SIP-T	Implemented	

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15 Acronyms

ACCS	Avaya Contact Center Select
ADI	Avaya Direct International
ASBCE	Avaya Session Border Controller for Enterprise
ASD	Avaya Solution Designer
FQDN	Fully Qualified Domain Name
IPOCC	IP Office Contact Center
IPOSS	IP Office Support Services
NAPT	Network Address Port Translation
OVA	Open Virtual Appliance
PLDS	Product Licensing and Delivery System
SBC	Session Border Controller
SCN	Small Community Network
SIP	Session Initiation Protocol
SME	Small and Medium Enterprise
SMTP	Simple Mail Transfer Protocol
SSL/VPN	Secure Socket Layer/Virtual Private Network
STUN	Simple Traversal of UDP (User Datagram Protocol) through NAT (Network Address Translation)
TCO	Total Cost of Ownership
TLS	Transport Layer Security
UC	Unified Communications
VOIP	Voice Over Internet Protocol
WAN	Wide Area Network

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16 Appendix A: New IP Office R9.1 Software License Material Codes

Below are the new IP Office R9.1 software license order codes for ADI and PLDS.

NOTE: Many of the previous R9.0 ADI and PLDS license order codes continue to be used for R9.1 but will have a description change from R9.0 to R9.x. The IP Office Select R9.1 PLDS material codes are all new. Licenses in 'italic' and/or 'underlined' material codes are effective July 13th, 2015.

New R9.1 ADI Software License Codes		New R9.1 PLDS Software License Codes		New SELECT R9.1 PLDS Software License Codes	
Material Code	SAP Description	Material Code	SAP Description	Material Code	SAP Description
338982	IPO R9+ SIP TRNK 50 ADI LIC	339200	IPO R9.1 AV TTS WNDWS PLDS LIC	339007	IPO-SL 9.1 RECEPTS 1 PLDS LIC
338983	IPO R9+ VM PRO UMS 1 ADI LIC	339201	IPO R9.1 AV TTS WNDWS TRIAL PLDS LIC	339008	IPO-SL 9.1 RECEPTS 1 TRL PLDS LIC
338984	IPO R9+ VM PRO UMS 5 ADI LIC	339202	IPO R9.1 3RD PTY TTS PLDS LIC	339009	IPO-SL 9.1 CTI PLDS LIC
338985	IPO R9+ VM PRO UMS 20 ADI LIC	339203	IPO R9.1 3RD PTY TTS TRIAL PLDS LIC	339140	IPO-SL 9.1 CTI TRL PLDS LIC
339058	IPO R9+ VM PRO UMS 1 TRIAL ADI LIC	339204	IPO R9.1 VM PRO UMS 1 PLDS LIC	339141	IPO-SL 9.1 VMPRO 2 PLDS LIC
382745	*IPO R9.1 PWR USER 1 ADI LIC*	339205	IPO R9.1 VM PRO UMS 1 TRIAL PLDS LIC	339142	IPO-SL 9.1 3RD PTY IP END 1 PLDS LIC
382746	*IPO R9.1 PWR USER 5 ADI LIC*	*382753*	*IPO R9.1 PWR USER 1 PLDS LIC*	339143	IPO-SL 9.1 3RD PTY IP 1 TRL PLDS LIC
382747	*IPO R9.1 PWR USER 20 ADI LIC*	*382754*	*IPO R9.1 TELEWORKER 1 PLDS LIC*	339144	IPO-SL 9.1 TAPI WAV RFA 4 PLDS LIC
338987	IPO R9+ PWR USER 50 ADI LIC	*382761*	*IPO R9.1 MOBILE WORKER 1 PLDS LIC*	339149	IPO-SL 9.1 TTS PROLINUX PLDS LIC
338988	IPO R9+ PWR USER 100 ADI LIC	*382762*	*IPO R9.1 OFF WORKER 1 PLDS LIC*	339150	IPO-SL 9.1 TTS PROLINUX TRL PLDS LIC
382748	*IPO R9.1 MBL TO PWR USER UPG 5 ADI LIC*	339206	IPO R9+ MBL-PWR USR 1 UPLT PLDS LIC	339151	IPO-SL 9.1 IPSEC VPN PLDS LIC
382749	*IPO R9.1 OFF WORKER TO PWR USR UPG 5*	339207	IPO R9+ OFF WK-PW USR1 UPLT PLDS LIC	339152	IPO-SL 9.1 IPSEC VPN TRL PLDS LIC
382750	*IPO R9.1 TELEWORKER 1 ADI LIC*	339208	IPO R9.1 VIDEO SOFTPHONE MAC PLDS LIC	339153	IPO-SL 9.1 CONTACT RECORDER PLDS LIC
382751	*IPO R9.1 TELEWORKER 5 ADI LIC*	339209	IPO R9.1 BRANCH WEBLM PLDS LIC	339154	IPO-SL 9.1 SIP TRNK 1 PLDS LIC
382752	*IPO R9.1 TELEWORKER 20 ADI LIC*	339210	IPO R9.1 SM LINE SIP TRUNK PLDS LIC	339155	IPO-SL 9.1 SIP TRNK 1 TRL PLDS LIC
382755	*IPO R9.1 MOBILE WORKER 1 ADI LIC*	339211	IPO R9.1 BRANCH SYSTEM PLDS LIC TRACKER	339156	IPO-SL 9.1 VMPRO UMS 1 PLDS LIC
382756	*IPO R9.1 MOBILE WORKER 5 ADI LIC*	340051	IPO R9.1 WEB COLLAB USER 1 PLDS LIC	339157	IPO-SL 9.1 VMPRO UMS 1 TRL PLDS LIC
382757	*IPO R9.1 MOBILE WORKER 20 ADI LIC*	340053	IPO R9.1 WEB COLLAB 1 PLDS TRIAL LIC	339158	IPO-SL 9.1 IP500 T1 ADD 2CH PLDS LIC
382758	*IPO R9.1 OFF WORKER 1 ADI LIC*	339212	IPO R9.1 ESNTL ED PLDS LIC	339159	IPO-SL 9.1 IP500 E1 ADD 2CH PLDS LIC
382759	*IPO R9.1 OFF WORKER 5 ADI LIC*	339213	IPO R9.1 ESNTL ED TRIAL PLDS LIC	339160	IPO-SL 9.1 IP500 E1 ADD 8CH PLDS LIC
382760	*IPO R9.1 OFF WORKER 20 ADI LIC*	339214	IPO R9.1 PREFRD VM PRO PLDS LIC	339161	IPO-SL 9.1 IP500 E1 22CH PLDS LIC
338989	IPO R9+ OFF WORKER 50 ADI LIC	339215	IPO R9.1 PREFRD VM PRO TRL PLDS LIC	339162	IPO-SL 9.1 IP500 E1R2 2CH PLDS LIC
339090	IPO R9+ OFF WORKER 100 ADI LIC	339216	IPO R9.1 SE PLDS LIC	339163	IPO-SL 9.1 IP500 E1R2 8CH PLDS LIC
339091	IPO R9+ AV IP ENDPT 50 ADI LIC	339217	IPO R9.1 VRTULZD SE PLDS LIC	339164	IPO-SL 9.1 IP500 E1R2 22CH PLDS LIC
339092	IPO R9+ AV IP ENDPT 100 ADI	339218	IPO R9.1 SE RUSSIA PLDS LIC	339165	IPO-SL 9.1 PWR USR 1 PLDS LIC

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New R9.1 ADI Software License Codes		New R9.1 PLDS Software License Codes		New SELECT R9.1 PLDS Software License Codes	
Material Code	SAP Description	Material Code	SAP Description	Material Code	SAP Description
	LIC				
339093	IPO R9.1 VIDEO SOFTPHONE MAC ADI LIC	339219	IPO R9.1 VRTULZD SE RUSSIA PLDS LIC	339166	IPO-SL 9.1 PWR USR 1 TRL PLDS LIC
339094	IPO R9.1 SM LINE SIP TRUNK LIC	339221	IPO R9.1 UPG PLDS LIC	339168	IPO-SL 9.1 OFF WKR TO PWR 1 PLDS LIC
339095	IPO BRANCH R9.1 SYSTEM LIC	339222	IPO R9.1 UPG SML PLDS LIC	339173	IPO-SL 9.1 OFF WRK 1 PLDS LIC
340052	IPO R9.1 WEB COLLAB USER 1 ADI LIC	339223	IPO R9.1 BRANCH CENTRL UPLT PLDS LIC	339174	IPO-SL 9.1 OFF WRK 1 TRL PLDS LIC
340054	IPO R9.1 WEB COLLAB 1 ADI TRIAL LIC	339224	IPO R9.1 ACCS ENABLEMENT PLDS LIC	339175	IPO-SL 9.1 AV IP ENDPT 1 PLDS LIC
339096	IPO R9.1 ESSNTL ED ADI LIC			339176	IPO R9+ AV IP ENDPT 1 TRIAL PLDS LIC
339097	IPO R9.1 ESSNTL ED TRIAL ADI LIC			339179	IPO-SL 9.1 VIDEO SOFTPHONE MAC PLDS LIC
339098	IPO R9.1 PREFRD VM PRO ADI LIC			339183	IPO-SL 9.1 SM LINE SIP TRK PLDS LIC
339099	IPO R9.1 PREFRD VM PRO TRIAL ADI LIC			339185	IPO-SL 9.1 WEB COLLAB USR 1 PLDS LIC
339100	IPO R9.1 SE ADI LIC			339186	IPO-SL 9.1 WEB COLLAB 5 TRL PLDS LIC
339101	IPO R9.1 VRTULZD SE ADI LIC			339193	IPO-SL 9.1 SE PLDS LIC
339102	IPO R9.1 SE RUSSIA ADI LIC			339194	IPO-SL 9.1 VRTLZD SE PLDS LIC
339103	IPO R9.1 VRTULZD SE RUSSIA ADI LIC			339195	IPO-SL 9.1 SE RUSSIA PLDS LIC
339105	IPO R9.1 UPG ADI LIC			339196	IPO-SL 9.1 VRTLZD SE RUSSIA PLDS LIC
339106	IPO R9.1 UPG SML ADI LIC			339199	IPO-SL 9.1 ACCS ENABLEMENT PLDS LIC
339107	IPO R9.1 UPG SE ADI LIC				
339108	IPO R9.1 UPG RUSSIA ADI LIC				
339110	IPO R9.1 ACCS ENABLEMENT ADI LIC				

17 Appendix B: IP Office R9.1 Select Migration Process – Available February 9, 2015

IP Office Select is a new product offering and R9.1 is the first release. As such, unlike moving from one Server Edition release to another, where a basic upgrade license is required, moving to IP Office Select R9.1 includes an additional migration activity. Existing Server Edition licenses need to be replaced by purchasing a new set of Select Migration PLDS licenses.   The customer investment in the Server Edition is protected, as the pricing of the migration licenses reflects the incremental value available in the IP Office Select product.

The migration process is targeted at installed base customers currently operating a Server Edition at release R8.1 or R9.0 and using ADI licensing.

**NOTE:** _New R9.1 customers who require Select features should purchase IP Office Select with their initial purchase to avoid the cost and effort associated with a subsequent migration activity._

In order to facilitate migrations to IP Office Select, a new set of IP Office Select Migration PLDS license codes will be available for configuration and ordering. These codes can be identified by "IPO-SL MIG 9.1 …." in the material code description. These codes will be in Controlled Introduction status and any order containing these material codes will be subject to a hold, validation and approval process.

Select Migration process details
- Commencing February 9, 2015, the information about existing software licensing will be captured in the associated ASD / Avaya One Source configurator.   Follow the instructions in the configuration tool.
- The configuration tool requires the user to input their existing IP Office Server Edition license totals by node/site (including specific System Identification Number / Feature Key Serial Number) , in order to quote the corresponding IP Office Select migration license material codes.   These codes can be identified by "IPO-SL **MIG** 9.1…" in the material code description. Users can also add incremental regular IP Office Select licenses as part of their "target" total should they wish to grow the system. They can be identified by "IPO-SL 9.1 …" in the material code description.
  - The configuration tool only provisions IP Office Select PLDS software licenses. Any other required hardware must be purchased through standard process.
- Through your distributor, turn the resulting quote into an order. This is an important step to ensure that your quote is directly associated with the order.   The distributor will send the order to Avaya.
- Upon placement of the order, the distributor will receive an automated email confirming receipt of the distributor PO and highlighting that the order is on hold pending validation and approval by Avaya product operations.
- Upon receipt of this same email, Avaya product operations will proceed to verify the information provided in the associated quote and will either approve the order for release and fulfillment or will request any necessary additional information/clarifications.
- Once approved, the order will be processed through the standard PLDS license delivery mechanism.

Key Dates:
- December 8, 2014 – New IP Office Select Migration PLDS license codes available in the price book in Controlled Introduction status. These codes can be identified by "IPO-SL MIG 9.1 …. " in the material code description. The advanced availability of this information will allow partners to begin early planning of any potential IP Office Server Edition migrations.
- February 9, 2015 – Upgrades and additions configurator capability becomes available in the ASD / Avaya One Source configurator. Quotes can now be created and orders submitted for any required migrations.

Other Process Terms and Conditions:

- No orders, other than for the intended purpose of migrating existing IP Office Server Edition customers to IP Office Select, will be accepted using the IP Office Select migration codes. All orders must be associated with the corresponding ADS/Avaya One Source quote, using the upgrades and additions configurator that will be available on February 9, 2015.
- IP Office Select migration codes are not eligible for special bids or promotions.
- Avaya product operations is targeting a response time of five business days to complete the validation process, once the order (including reference to the associated quote number) has been received.
- Upon approval of the order, Avaya will de-activate existing license records associated with the Server Edition nodes/sites in the ADI licensing system. The existing licenses will no longer be available to the customer. IP Office Select licenses obsolete any previously installed licenses on the solution nodes.
- The technical upgrade process for an existing IP Office Server Edition R8.1 or R9.0 systems using ADI licenses, requires that the system first be upgraded to IP Office Server Edition R9.1 prior to installation of the new IP Office Select Migration license codes.   The Server Edition R9.1 ADI upgrade licenses can be purchased through standard process or obtained as a part of the IPOSS service coverage entitlement for eligible customers.
  - Partners are advised to obtain the necessary Server Edition R9.1 ADI upgrade licenses prior/in parallel to purchasing their Select migration PLDS licenses.
- From February 9th, the ASD / Avaya One Source configuration will facilitate the ordering of required maintenance service attach. See the following link for additional information on the IPOSS offer: https://sales.avaya.com/en/pss/ip-office-support-services
- Should you have any further questions, please contact your Avaya sales representative.

IP Office Select R9.1 Migration PLDS Software License Codes

NEW SELECT R9.1 MIGRATION PLDS Software License Codes	
Material Code	**SAP Description**
380310	IPO-SL MIG 9.1 RECEPTS 1 PLDS LIC
380311	IPO-SL MIG 9.1 CTI PLDS LIC
380312	IPO-SL MIG 9.1 VMPRO 2 PLDS LIC
380313	IPO-SL MIG 9.1 3PTY IP EP 1 PLDS LIC
380314	IPO-SL MIG 9.1 TAPI WV RFA 4PLDS LIC
380315	IPO-SL MIG 9.1 TTS PROLINUX PLDS LIC
380316	IPO-SL MIG 9.1 IPSEC VPN PLDS LIC
380317	IPO-SL MIG 9.1 CONTACT RCDR PLDS LIC
380318	IPO-SL MIG 9.1 SIP TRNK 1 PLDS LIC
380319	IPO-SL MIG 9.1 VMPRO UMS 1 PLDS LIC
380320	IPO-SL MIG 9.1 T1 ADD 2CH PLDS LIC
380321	IPO-SL MIG 9.1 E1 2CH PLDS LIC
380034	IPO-SL MIG 9.1 E1 8CH PLDS LIC
370524	IPO-SL MIG 9.1 E1 22CH PLDS LIC
380322	IPO-SL MIG 9.1 E1 R2 2CH PLDS LIC
380778	IPO-SL MIG 9.1 E1 R2 8CH PLDS LIC

NEW SELECT R9.1 MIGRATION PLDS Software License Codes	
Material Code	**SAP Description**
380779	IPO-SL MIG 9.1 E1 R2 22CH PLDS LIC
380323	IPO-SL MIG 9.1 PWR USR 1 PLDS LIC
380324	IPO-SL MIG 9.1 OFF WRK 1 PLDS LIC
380325	IPO-SL MIG 9.1 AV IP EDPT 1 PLDS LIC
380327	IPO-SL MIG 9.1 VSFTPHN MAC PLDS LIC
380328	IPO-SL MIG 9.1 SM LN SIP TK PLDS LIC
380329	IPO-SL MIG 9.1 WEB COLLAB 1PLDS LIC
380330	IPO-SL MIG 9.1 SE PLDS LIC
380331	IPO-SL MIG 9.1 VRTLZD SE PLDS LIC
380332	IPO-SL MIG 9.1 SE RUSSIA PLDS LIC
380333	IPO-SL MIG 9.1 VRTLZD SE RUS PLDSLIC
380334	IPO-SL MIG 9.1 SFTW ONLY SE PLDS LIC
380335	IPO-SL MIG 9.1 ACCS ENBLMNT PLDS LIC

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