


IP Office Release 9.0 Product Update

Update Number: 1.1

Date: August 15, 2013

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.

Revision History

Date	Rev.	Pages	Description
August 2013	1.1		Initial Partner Release

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1 IP Office Release 9.0 Summary

IP Office R9.0 will continue to evolve the IP Office product and solutions with its focus being to position and strengthen the IP Office as a market leader within the SME, Mid-Market and Branch market segments as well as to augment its key differentiating competitive attributes. The project has four main themes which are described as follows:

- Branch Consolidation and Centralization:
 - IP Office and B5800 as a single branch product
 - Support for Centralized Avaya Aura® SIP Clients
- Rich UC Collaboration:
 - Multi-party audio conferencing with Flare Experience
 - Mobile VoIP client (one-X Mobile Preferred)
 - Presence & IM enhancements (e.g. IM in Outlook plug-in, IM group communications)
 - Avaya SBCE support for IP Office soft-clients
- Server Edition Enhancements:
 - Web Manager
 - Scalability
 - Contact Store Linux version (name change to Avaya Contact Recorder for IP Office)
- Virtualization
 - Allows IP Office to co-reside on customer provided hardware alongside other customer applications.
 - Efficient use of customer hardware resources
 - Lower TCO

IP Office R9.0 general availability is September 2013. The project will implement a three pronged Go-To-Market (GTM) strategy where each thrust will implement a strategy specific to the unique addressable market being targeted, namely SME, Mid-Market or Branch markets.

1.1 Key Messages

Release 9.0	Resellers/Partners	Customers
<ul style="list-style-type: none"> Branch Consolidation and Centralization 	<ul style="list-style-type: none"> One platform to sell, install, and maintain Single stocking & sparing Simplified training & certification for partners 	<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> Centralized Avaya Aura® SIP endpoints 	<ul style="list-style-type: none"> One platform that can evolve from standalone or distributed and be re-positioned as a survivable SIP Gateway 	<ul style="list-style-type: none"> Extend the reach and deployment of Avaya Aura SIP end-points to the IP office branch
<ul style="list-style-type: none"> Rich UC Collaboration 	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> Access Unified Communications on BYOD devices (iPhone, iPad, Android) and Desktop Integration like Outlook Plugin Using mobile VoIP client over cellular or Wi-Fi data channels Choose between VoIP or call-back mode based on quality of cellular or WiFi network to get optimum voice quality Improve collaboration through multi-party audio conferencing with the Flare Experience client on Windows or iPad
<ul style="list-style-type: none"> Server Edition Enhancements 	<ul style="list-style-type: none"> Best TCO and simplicity for Mid-market Increased capacity up-to 1500 users Easier administration with Web Based Management Better licensing scheme for VM Pro resiliency 	<ul style="list-style-type: none"> Best TCO and simplicity for Mid-market. Increased capacity up-to 1500 users Lower costs for adding VM Pro resiliency Better user experience with IP connection preservation. Better multisite features including park-and-page and network wide hunt groups
<ul style="list-style-type: none"> Virtualization 	<ul style="list-style-type: none"> Increases addressable market. Quicker deployment and reduced hardware deployment effort possible Offers option for alternative 	<ul style="list-style-type: none"> Better utilization of hardware resources Reduced footprint decreases energy and cooling requirements Offers increased agility for

Release 9.0	Resellers/Partners	Customers
	hardware hosting options	managing IP Office and customer's hardware environment
<ul style="list-style-type: none"> SME Capabilities 	<ul style="list-style-type: none"> Reduced cost of support with expanded SSL/VPN remote access Supporting more SIP trunk implementation scenarios 	<ul style="list-style-type: none"> Faster support for reduced service interruption Broader selection of SIP trunk service providers
<ul style="list-style-type: none"> IP Office Web Manager 	<ul style="list-style-type: none"> Simplified multi-site management for Server Edition Web Manager extended to all IP Office Editions 	<ul style="list-style-type: none"> User friendly, web based day 2 administration tool for end user moves, adds and changes
<ul style="list-style-type: none"> Communications Accessibility Enhancements 	<ul style="list-style-type: none"> Expanding accessibility offering for greater access to government and non-government markets 	<ul style="list-style-type: none"> IP Office One-X Portal Call Assistant Accessibility enablement for people with visual impairments or who are blind
<ul style="list-style-type: none"> GRIP Requests 	<ul style="list-style-type: none"> Listening and responding to Partner product enhancement suggestions 	<ul style="list-style-type: none"> 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 9.0 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

- August 26, 2013 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 September 23rd.
- Price List Administration Tool (PLAT) files
 - Enterprise Configurator (EC Voice) and EZ Quote quoting tools
 - Avaya Direct International (ADI) Licensing tool
 - Avaya Solution designer (ASD)
 - Product Licensing and Delivery System (PLDS)
- September 23, 2013 IP Office R9.0 software and documentation is available for download from support.avaya.com
- October 14, 2013 IP Office R9.0 new hardware & DVDs are available at distribution.

Note: The above dates are subject to change.

2.2 Availability for Avaya Authorized Partners

- September 23, 2013 IP Office R9.0 software and documentation is available for download from support.avaya.com
- October 14, 2013 IP Office R9.0 new HW & DVDs are available at distribution.

Note: The above dates are subject to change.

3 Platform Support

3.1 IP Office R9.0 will support the following platforms

Platform and features supported on the platform has not changed from the 8.1 release.

- IP500
- IP500 V2
- IP Office for Linux (Server Edition, Virtualized IP Office)

However, some of the features are only supported on the IP500 V2 platform, as summarized in the following table:

	IP500	IP500 V2	Server Edition*
Basic Edition – PARTNER® Mode	X	✓	X
Basic Edition – Norstar™ Mode	X	✓	X
Combination cards	X	✓	X
SD cards	X	✓	X
Essential Edition additional ports license	X	✓	X
Norstar™/BCM Digital phones on IP Office	X	✓	X
TCM8	X	✓	X
DS16A/DS30A and DS16B/DS30B	X	✓	X
Unified Communications Module (UCM)	X	✓	X
SSL/VPN	X	✓	✓
On-Boarding Automation	X	✓	✓
SSL/VPN NAPT	X	✓	✓
IP Office Web Manager	X	✓	✓

All other Release 9.0 features are supported on all platforms.

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 500V2 Expansion System.

Note 2: IP Office R9.0 software cannot be used on IP401, IP403, IP406, IP406 V2, IP412, or Small Office Edition.

4 Release Documentation

Detailed release information can be found in the following documents available with the Avaya IP Office R9.0 software pack available on DVD media or downloadable from support.avaya.com

- Product Description (Release 9.0)
- Technical Bulletin (Release 9.0)
- 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 9.0 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 '9.0' 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 R9.0 Detailed Description of Enhancements

5.1 Branch Consolidation and Centralization

IP Office R9.0 is the next release for Avaya B5800 Branch Gateway (B5800) and builds upon Avaya's IP Office award winning product to provide a cost-effective branch solution for Enterprise customers. IP Office R9.0 integrates B5800 functionality such that it now has the ability to support the deployment of the IP Office as an enterprise branch.

An IP Office enterprise branch deployment can be implemented using the IP Office R9.0 Standard Mode (Essential, Preferred, or Advanced) system. The IP Office can be installed as an independent, standalone branch, or be connected to the Avaya Aura® network and migrated to a Distributed, Centralized, or Mixed enterprise branch to provide specific features and applications to meet the needs of individual employees in each branch location.

In addition to centralized Avaya Aura® SIP endpoints, IP Office can concurrently support other IP and TDM endpoints for a community of Centralized users and IP Office users in the same branch. Ideal for enterprises with applications deployed in customer data centers or in the branch itself, an IP Office branch can effectively deliver a range of communication tools without complex infrastructure and administration.

Refer to the Branch Product Offer document for details on the branch related features delivered within IP Office R9.0, the business benefits that customers will be able to realize from this release, a description of the deployment architectures supported with corresponding call-flows, guidelines on "best fit" and positioning of Avaya branch products and solutions, as well as a commercial overview related to branch that includes specifics on training, licensing, material codes and ordering tools.

The IP Office R9.0 Branch Product Offer document will be posted alongside the IP Office Product Update document on the SME Sales Portal on the IP Office R9.0 Sales Toolkit landing page.

5.2 Rich UC Collaboration

5.2.1 Mobile VoIP client (one-X Mobile Preferred)

The one-X Mobile Preferred mobility client launched with Release 8.0 delivered a rich and unique Unified Communications (UC) experience on mobile devices for IP Office customers. This mobility client worked in call-back telephony mode only i.e., when a user initiated a call from the mobility client, the IP Office initiated a call to the caller's mobile phone and then dialed the destination. This mode offered cost savings to users in countries where incoming voice calls are free or for users who have cheaper unlimited voice plan as compared with a data plan.

With Release 9.0, we are enhancing the mobility client to work in a Voice over IP (VoIP) mode. In the VoIP mode, the mobility client can make calls over Wi-Fi/3G/4G data networks. The mobility client using its underlying SIP stack will register with the IP Office over the data network and thus will function as your office extension on the mobile device. The mobile user can use the mobility client to perform all telephony features including mid-call features such as:

- Incoming and Outgoing VoIP calls
- Supervised/ Unsupervised Transfer
- Hold / Unhold
- Mute/ Unmute
- Multiple simultaneous call sessions
- DTMF

Users in countries where incoming calls are charged will see a significant cost savings in the VoIP mode especially when on Wi-Fi networks.

The availability of both Call-back and VoIP modes on the mobility client will enable users to toggle between the modes based on their network connections. This will empower end-users to make a choice of the appropriate mode based on their voice/data plan as well as availability and quality of the data connection (WiFi/3G/4G).

For example:

- The mobile user may choose the Call-back mode when he/she doesn't have Wi-Fi access and the 3G data connection is not providing good quality for voice.
- The mobile user may choose the VoIP mode when in office/home/mobile hotspots where Wi-Fi data connection is available OR when the 3G/4G data connection is good.

One-X Mobile Preferred mobility client will support the VoIP mode on both iOS and Android devices. The figures below show the one-X Mobile Preferred mobility client with VoIP mode for iOS and Android devices:



The following mobile OS versions will be supported:

- iOS 5 and above
- Android 4 and above. Note that the VoIP mode has been tested and certified to work with acceptable acoustic performance for the following devices only:
 - Samsung Galaxy S3
 - HTC One-S
 - 'Best effort' VoIP support will be provided on other devices but may present problems such as echo problems, voice disruption, Difficulty switching between handset, speaker and Bluetooth, inability to change volume levels etc.

The VoIP mode will be available with the Power User profile. Users with Mobile Worker license can avail of only the Call-back mode in the mobility client.

The following features are available only on the Android mobility client:

- Ring tone selection for the mobility client
- Selection of high-bandwidth or narrowband codecs based on the network connection (WiFi vs. 3G/4G)
- Mobility client can be configured to automatically use Bluetooth headset for controlling audio (only) on VoIP calls when available
- Conference screen user experience enhancements

In addition to the VoIP mode, the following enhancements have been made to the call-back mode:

- Ability to do call transfer (unsupervised) to another contact or arbitrary phone number.
- Ability to Enable/disable mobile twinning (simultaneous ring)
- Ability to Enable/disable DND (send all calls)
- Call log information (incoming/outgoing/missed calls) is shown for both modes. Call log information is combined with Voicemails in the Event history tab.
- Call monitoring on the mobility client gives the user ability to see and interact with all calls the user makes or receives through IP Office.
- Addition of Dial Plan for the VoIP mode for both Android and iOS.

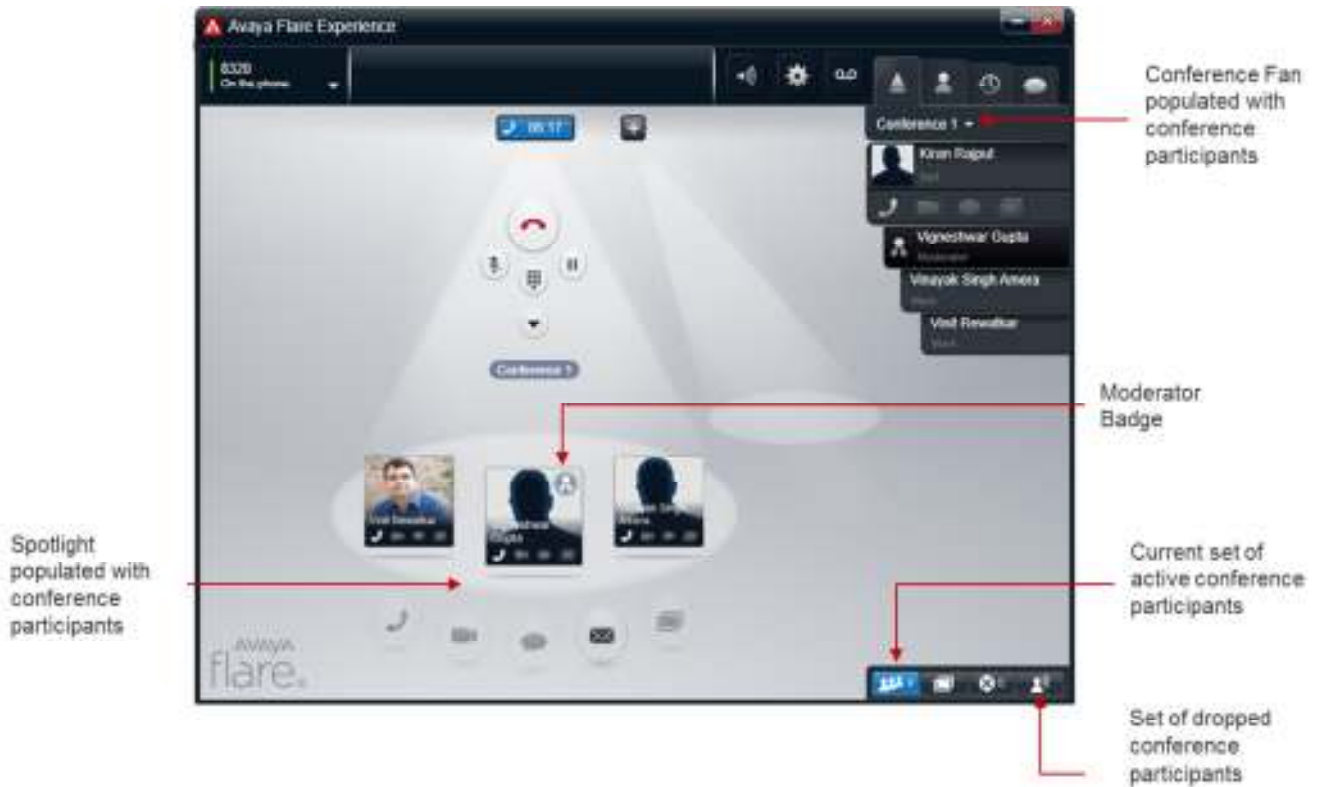
5.2.2 Flare Experience for IP Office

Avaya Flare® Experience is Avaya's next generation user interface that establishes a high performance collaboration environment on iPad and Windows. IP Office Release 8.1 delivered Flare Experience for IP Office with point-to-point audio, video and IM features. With Release 9.0, Flare Experience will deliver multi-party audio conferencing features that will help customers improve their productivity as well as collaborate quickly.

Avaya Flare Experience delivered with IP Office Release 9 offers the following features:

- Multiparty Meet-me audio conferencing with moderator controls, roster of participants
- With multi-party audio conferencing support in Flare Experience, when multiple users join a IP Office Meet-me bridge using Flare Experience, there spotlight will show all the participants in the audio conference. Each Meet-me conference will have two types of users – Moderator and Participants – each having a separate list of controls to control the conference. The Moderator is always marked such with a Moderator badge and has authority to control the meet-me conference using the following features:
 - Add participants using dial-pad or drag & drop
 - Mute/UnMute all or a subset of participants
 - Lock / UnLock the conference: Lock the conference so that no other participant can enter the conference. Moderator retains the privilege to add/remove the participants by dialing out. Moderator can Unlock the conference and participants should can join the conference.
 - Place conference in lecture mode.
 - Enable/Disable Entry or Exit Tone: Configurable option to play Entry or Exit Tone when a participant joins or leaves the conference. Default is enabled.
 - Drop all or a subset of participants from the meet-me conference.
 - End the meet-me conference
 - Enable/Disable Continuation: Enabling conference continuation allows the Moderator to continue the conference even after he/she drops out.
 - Participant promotion: The Moderator can promote the Participant as Moderator.

Please see below a picture of Avaya Flare Experience with multi-party audio conferencing:



Meet-me conference control features are highlighted in the figure below:



Note: Flare Experience for IP Office does not support Conference recording and Active speaker indicator.

- Support for ad-hoc audio conferencing
 - Avaya Flare Experience supports creating the Ad-hoc conference by merging P2P calls, similar to other standard SIP phones. User should drag one point to point voice

session over another p2p audio session to start Ad hoc conference. All the sessions present in Flare will be merged into a single call, which will result in single active center spotlight with contact card having display name like “Conf 100”. “100” being the conference ID. With ad-hoc conferencing the participant list is not displayed as in the case of meet-me conference. Users can add new participants to an Ad hoc conference by creating another P2P session with participant and merging the session with existing conference session.

- Authorization Code and Account Code support (Windows only) - Flare Experience allows entering the authorization code and account code for outgoing calls. Authorization code should be entered first and then the account code if both codes are set for the user.
- Hold timeout reminder- Support for hold timeout reminder has been added in Flare Experience. The hold timeout controls how long calls remain on hold before reminding the user who placed the call on hold. The reminder is in the form of an incoming call.
- Interoperability with the Avaya Session Border Controller for Enterprise (covered in Section 5.2.4) allows Flare Experience client on Window and iPad to be used by Remote Workers and register with IP Office without requiring a VPN connection.

5.2.3 Desktop Integration and Presence/IM Enhancements

Presence/IM enhancements

Presence and IM are table-stakes to any Unified Communications and Collaboration offering. IP Office R9.0 makes the offering more scalable and more usable. Support for XMPP groups provides the ability to aggregate users into logical groups (Sales, Marketing, Direct Reports etc.). XMPP groups will help both IP Office Administrators and the End users in the following ways:

1. Better scaling and reduced network traffic
2. Group Communications (group chat, distributing voice messages to a group, inviting a group to conference etc.)
3. Reducing the roster-size and providing ease of directory navigation

One-X Portal and Desktop Integration enhancements

With IP Office Release R8.0, we introduced Desktop Integration such as the Avaya IP Office Plug-in for Microsoft Outlook and the Avaya IP Office Plug-in for Salesforce.com as part of our UC portfolio. These integrations have helped us deliver on the promise of pervasive UC. With Release 9.0, we are significantly enhancing the Avaya IP Office Plugin for Microsoft Outlook, filling in critical gaps that will help users increase their productivity.

The Avaya IP Office Plugin for Microsoft is enhanced with the following features:

- Instant Messaging support
 - Outlook Plugin provides Instant Messaging features such as send/receive IMs, escalate IM to call, save/email IM conversations, IM notifications, support for multiple IM conversations
- Enhanced directory
 - Directory has been enhanced to show contact cards with details, support for avatars and status messages as well as recent communications.
 - Making changes (adds/removes) to the directory has been optimized and enhanced (multiple contacts can be deleted at the same time)
 - Users have the ability to create, update or delete a one-X Portal user group from the plugin
- Click-to-dial from email body

- Users can right-click on a phone number within email body and initiate an outbound call
- Selecting one-X Portal User Profile (Office/ Home/ Mobile)
- Specifying Dialing Rules
- Secure communication (HTTPS) with one-X Portal server
- Supported on Citrix platform
- Support for Windows 8
- Support for Microsoft Outlook 2013

Avaya IP Office plugin for Salesforce.com has also been enhanced in Release 9.0 with the following capabilities:

- Additional support for browsers. (see table in Section 5.23)
- Secure communication (HTTPS) with one-X Portal server

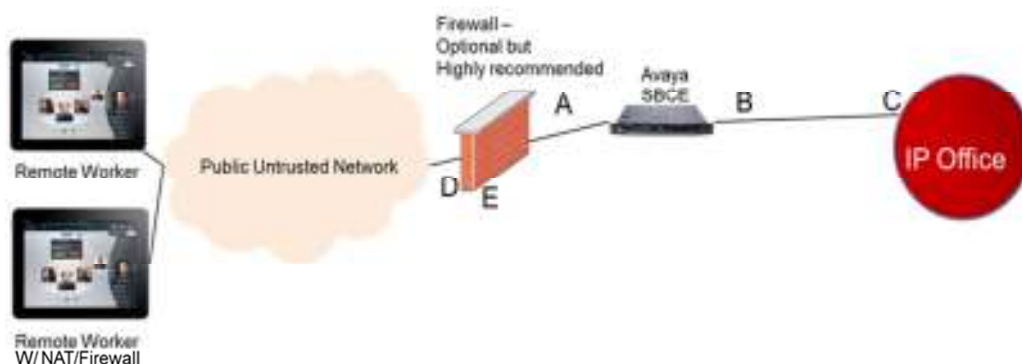
5.2.4 Avaya Session Border Controller for Enterprise (ASBCE) support for IP Office soft-clients

The ASBCE Release 6.2 introduced support for SIP trunks on IP Office R8.1. In IP Office R9.0, this support is expanded to IP Office Remote Workers for a selection of soft-clients when used in conjunction with the ASBCE Release 6.2 FP1

The following IP Office soft-clients (SIP end points) are supported with ASBCE 6.2 Feature Pack 1:

1. Flare Experience iPad
2. Flare Experience Windows
3. One-X Mobile Preferred for Android
4. One-X Mobile Preferred for iOS

Deployment to support soft-clients for remote workers with IP Office using ASBCE will look as follows:



SIP Signaling between Flare end-point and IP Office through ASBCE:



5.3 Server Edition Enhancements

Avaya IP Office R9.0 is the second major release on Server Edition since the initial R8.1 launch. There are enhancements in several areas of the Server Edition including but not limited to scalability, resiliency, management, virtualization and more.

5.3.1 Server Edition Solution Scalability

With IP Office R9.0, several areas have been enhanced in scaling the overall solution, not just users. Please refer to the below table that lists the scalability numbers.

Note: The HP DL120 is being replaced with the Dell R210 server for R9.0.

Feature	R9.0	Comments
Users		
Maximum Solution Users	1500	'NoUser' and RAS Users not counted, Up from 1000 in R8.1
Maximum users per DL360 (Primary/ Secondary)	1500	Up from 500 in R8.1
Maximum users per DellR210 (Primary/ Secondary)	750	Up from 500 in R8.1
Maximum users per Dell R210 (Expansion)	750	Up from 500 in R8.1
Maximum users per IP500 V2	384	
Extensions		
Total Extensions	1500	Up from 1000 in R8.1
Maximum extension per DL360 (Primary/ Secondary)	1500	96x1/16xx extension type
Maximum extensions per Dell R210 (Primary/ Secondary)	750	
Maximum extensions per Dell R210 (Expansion)	750	
Maximum DECT R4 Extensions per device	384	DL360, Dell R210 or IP500 V2
Maximum Remote Worker Extensions, HP DL360	256	

Feature	R9.0	Comments
Maximum Remote Worker Extensions, HP Dell R210	128	
Maximum Remote Worker Extensions, IP500 V2	120	
Maximum additional button module buttons per system, Linux	2048	Regardless of whether the buttons are configured for use or not. Up from 1024 in R8.1
Maximum additional button module buttons per system, IP500 V2	1024	Regardless of whether the buttons are configured for use or not
Multi-Site Network		
Maximum servers/expansions	32	
Maximum servers	2	2 Core Servers (Primary and Secondary)
Maximum expansions	30	
Trunks		
Registered SIP Trunks, DL360 (Primary/Secondary)	250	Maximum number of SIP trunks <u>not</u> number of SIP trunk channels
Registered SIP Trunks, Dell R210 (Primary/Secondary)	125	
Registered SIP Trunks, Dell R210 (Expansion)	125	
Registered SIP Trunks, IP500 V2	125	
Maximum SIP Channels, DL360 (Primary/Secondary)	512 (direct media) 256 (indirect media)	See also concurrent VoIP call capacity below
Maximum SIP Channels, Dell R210 (Primary/Secondary)	256 (direct media) 128 (indirect media)	See also concurrent VoIP call capacity below
Maximum SIP Channels, Dell R210 (Expansion)	256 (direct media) 128 (indirect media)	See also concurrent VoIP call capacity below
Maximum SIP Channels, IP500 V2	120	direct or indirect media, see also concurrent VoIP call capacity below
Maximum trunk channels per SCN, Linux	250	Links between Server Edition nodes. Up from 128 in R8.1.
Maximum trunk channels per SCN, IP500 V2	250	Links between Server Edition nodes. Up from 128 in R8.1
Call Processing		
DL360 Server call capacity (BHCC)	18000 with no one-X Portal users active, or remote one-X Portal server	Maximum: 96x1 H.323 users/extensions, total users/extension, active VM channels, active conference channels, logged in one-X Portal users, G.711 codec. Up from 14400 in R8.1
	9000 with one-X Portal users active	Performance with SIP extensions may be lower. Up from 7200 in R8.1

Feature	R9.0	Comments
Dell R210 Server call capacity (BHCC)	9000 with or without one-X Portal users active	Maximum: 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. Up from 7200 in R8.1
IP500 V2 Expansion call capacity (BHCC)	7200	Maximum 96x1 H.323 users/extensions, maximum active conference channels, G.711 codec. Performance with Digital extensions may be higher. Performance with SIP extensions may be lower.
Overall call capacity (BHCC)	18000/9000	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. Up from 14400/7200 in R8.1
Concurrent VoIP calls: direct media	1500	Note there are some IP Office networking constraints to achieve direct media
Concurrent VoIP calls: indirect media, DL360	256	
Concurrent VoIP calls: indirect media, Dell R210	128	
Concurrent VoIP calls: indirect media, IP500 V2 VCM	120	
Concurrent VoIP calls: indirect media, IP500 V2 RTP relay	120	Up from 60 in R8.1
VCM/transcoding channels, DL360	256	Specified capacity is for G.711 a-Law/mu-Law
VCM/transcoding channels, Dell R210	128	The codecs used have an effect on performance and capacity.
VCM/transcoding channels, IP500 V2	148	Two channels are required per call for transcoding
Hunt Groups		
Maximum Hunt Groups	300	Total hunt groups in solution. Up from 200 in R8.1
Hunt Group size	750	Maximum users in a single hunt group. Up from 500 in R8.1
Total Hunt Group members	3000	Members spread over max hunt groups with a single hunt group not exceeding individual max size. Up from 2,000 in R8.1
Conferencing		
Conferencing channels, DL360	256	Both ad-hoc and meet-me With one-X Portal active, a solution-wide limit of 512 conference channels applies
Conferencing channels, Dell R210	128	No dynamic solution-wide allocation supported, only static via call flows
Conferencing channels, IP500 V2	128	
Maximum Conferences, DL360	85x3	Up from 42x3 in R8.1
Maximum Conferences, Dell R210	42x3	
Maximum Conferences, IP500 V2	42x3	

Feature	R9.0	Comments
Maximum conference size, Linux	1x256	Up from 2x64 in R8.1
Maximum conference size, IP500 V2	2x64	
Paging group size, DL360	128	Up from 64 in R8.1
Paging group size, Dell R210	128	Up from 64 in R8.1
Paging group size, IP500 V2	64	
Messaging		
Mailboxes	1500	Up from 1000 in R8.1
Voicemail/ Auto Attendants channels, DL360	150	
Voicemail/ Auto Attendants channels, Dell R210	75	
Maximum Recording/VRLA channel capacity	Total 150 85 per DL360 42 per R210 42 per IP500 V2	Capacities are per node, up to the total solution capacity of 150. 1 recording channel takes 3 conference channels and one licensed voicemail channel Location of conference channels used determined by point of recording: <ul style="list-style-type: none"> • ICR recording done at trunk location • User recording done at users' location • System recording at node location. Maximum BHCC 9,000 (Linux), 3,600 (IP 500V2)
Message store capacity (hrs)	1500	Storage @ 1MB per minute
Single mailbox max capacity (mins)	60	
Total call recording capacity (hrs)	333	Avaya Contact Recorder storage not included (separate server)
TTS Channels	40	
Voicemail Email users – IMAP/SMTP/MAPI	1500	SMTP Voicemail forwarding to email MAPI Voicemail forwarding to Exchange Server IMAP server
Exchange Integration – MAPI	490	Microsoft Exchange Server two-way integration
Productivity		
One-X Portal active clients on Primary DL360	300	Maximum including all one-X Portal client types of any mix, including plugins. Not more than 10% can be Flare All HTTP clients - HTTPS supported at 50% capacity
One-X Portal active clients on Primary Dell R210	150	Maximum including all one-X Portal client types of any mix, including plugins. Not more than 10% can be Flare All HTTP clients - HTTPS supported at 50% capacity
One-X Portal active clients on separate DL360	750	New for R9.0
One-X Portal active clients on separate Dell R210	500	

Feature	R9.0	Comments
SoftConsole active instances, Linux Server/Expansion	10	
SoftConsole active instances, V2 Expansion System	4	
SoftConsole active instances, SE solution	32	Per node capacity cannot be exceeded
Resilience		
Server backup extension/users capacity, DL360	1500	Avaya 16xx/96xx H.323 phones only. Up from 500 in R8.1.
Server backup extension/users capacity, Dell R210	750	Linux and IP500 V2 Expansion cannot host user/extension backup operation
Single phone failover time	2-3 minutes	Typically just over 2 minutes
Maximum complete server failover time, minutes	15	Primary with 50% solution maximum extensions/users, voicemail active and hunt groups. No extensions/users already on Secondary Server.
Directory		
System directory capacity	5000 entries	Over complete solution. Up to 2500 from configuration, 5000 from LDAP, 5000 from HTTP import.
Personal directory capacity	100 per user	Total 10800 per device.
HTTP/TFTP user list capacity	1500	HTTP or TFTP. 11xx/12xx will not support above 1000.
HTTP/TFTP HG list capacity	750	HTTP or TFTP. 11xx/12xx will not support above 1000
Networking		
DHCP server capacity, DL360	1500	96x1 phone support
DHCP server capacity, Dell R210	750	96x1 phone support
DHCP server capacity, IP500 V2	384	
Minimum DHCP server pools, IPOL	32	Assumes 1 DHCP pool per 48 phones - SV test limitation
DHCP server pools, IP500 V2	8	
HTTP phone server clients, DL360	1500	
HTTP phone server clients, Dell R210	750	
Startup/Availability		
Phone service availability after restart, DL360	1000 in 5 minutes	Able to make calls. 96x1 phone with DHCP, no upgrade
Phone service availability after restart, Dell R210	500 in 5 minutes	Able to make calls. 96x1 phone with DHCP, no upgrade
Phone service availability after restart, IP500 V2	384 in 5 minutes	Able to make calls. 96x1 phone with DHCP, no upgrade
Phone upgrade performance, DL360	200 in 50 minutes	For 96x1 phone types. 16xx and 94xx types are typically quicker

Feature	R9.0	Comments
Phone upgrade performance, DL360	100 in 50 minutes	For 96x1 phone types. 16xx and 94xx types are typically quicker
Phone upgrade performance, IP500 V2	50 in 50 minutes	For 96x1 phone types. 16xx and 94xx types are typically quicker

5.3.2 Server Edition Virtualization Support

With R9.0, Server Edition software now fully supports virtualization with VMware with both vSphere 4.x and 5.x environments. Please refer to Virtualization section for further details.

5.3.3 Server Edition Management Enhancements

R9.0 brings in the new Web Based Management support to manage the entire multi-site Server Edition solution. There are various features that are added in R9.0 and the Web Based Management will continue to be enhanced in the subsequent releases. Below is an overview of the enhancements for R9.0. Please refer to the Web Manager Evolution section for additional details on the implementation including screen shots.

- Consolidated management platform for mid-market multi-site solution (primary, secondary, expansion, application servers). The R8.1 server management portal (Web Control) has been enhanced and integrated into Web Management.
- Simplified Linux distribution, server and ignition options
- Single URL management; no need to point to different servers
- Single, one-time log-in for IP Office management including VM Pro and one-X Portal
- Simplified task flow, intuitive menu structure and enhanced graphical design
- Improved, solution wide back-up, restore, upgrades and user management
- User management for User configuration, moves, adds and changes, import/export

5.4 Server Edition Resiliency Enhancements

R9.0 continues to support various resiliency enhancements throughout the solution. Following are the key resiliency enhancements this release.

Media Connection Preservation

With this enhancement, the R9.0 Server Edition software can now preserve the RTP stream of active calls during network or call server outages where possible; the calls do not get re-routed.

Key Features

1. Supported on H.323 and SIP trunks including SCN trunks between Server Edition Systems.
2. Supported on 96x1 H.323 phones for full media connection preservation.
3. Call can continue as long as media can flow but other call features like hold or transfer will not be available.

Configuration Options

1. At System Level: default “enabled” but “disabled” on upgrade.

2. Per SIP trunk: default disabled.

PSTN fall back

This feature allows to route calls over PSTN when VoIP trunks fail or busy. It provides a mechanism to route H.323/SCN trunk calls via PSTN on busy or out of service by creating an ARS entry titled *****NET*****

1. For each 'far-end' user a single entry with PSTN number.
2. Can include hunt groups.

Caveats:

1. Only dial or transfer supported.
2. No specific indication in SMDR.
3. Voicemail leave or collect not supported.
4. Cannot differentiate between busy and out of service.

Local Failover hunt groups

This feature helps maintain hunt group processing for all local users until the connection is re-established. Also the local hunt group processing will not persist over restarts.

Primary Failover Controls

For R9.0 a new DSS button and SSA feature that indicates the failure status as seen from the Secondary. Pressing the button will force the voicemail and hunt group processing to the Secondary.

1. No effect on anything other than the Secondary
2. Must have a failure condition. Will not work if Secondary can see Primary

VM Pro Resiliency Enhancements

The need to have a second set of VM Pro licenses on the Secondary server has been eliminated. Please see licensing improvements section for more details.

5.5 Music on Hold (MoH) support

Music on Hold delivers the following capabilities for Server Edition and virtualized IP Office.

1. Support for alternate music sources on Linux Primary, Secondary and Expansion systems. Server sources include locally stored single WAV file (default), local single directory of .WAV files (playlist). Server Edition (not including virtualized IP Office) also supports local input via a USB audio sound device and supports centralized delivery (to all nodes) from Primary, with ability of any node to selectively opt out of centrally delivered MoH in favour of locally defined MoH. When in resilient mode, Secondary and Expansion Linux servers will revert to a default tone as the MoH source. Support continuous playing of .WAV files with option to define a playlist or play same file continuously.
2. Maintain the existing start/stop play option available for Linux and virtualized systems.

5.6 Soft-Console Enhancements for Server Edition

With R9.0, Soft-Console now better fits the needs of a multi-site Server Edition deployment. With R9.0, Soft Console now can be attached to any node (not just the Primary node). But this also means that the licensing of Soft Console is no longer centralized and is now node-based.

Enhancements

1. Remote park slots.
2. Remote hunt group monitor and pickup longest waiting.
3. Remote park-for busy extension (CTRL-B).
4. Configuration of forwarding DND etc. of remote users.
5. Set Remote hunt groups In/Out of service.
6. Call Tagging.

Note: Aggregated Hunt group pickup recall queues are not supported.

5.7 Linux Contact Store Support

A Linux based version of this application has been added to the Server Edition platform. The functionality of this application is unchanged from the user perspective. The software is delivered as a Linux RPM file in the regular IP Office Service Edition image and also is included in the ISO file for the Linux version of the IP Office Application Server, which adds this software to the already existing Voice Mail Pro and one-X server images. Contact Recorder for IP Office runs on an application server separate from the Server Edition Primary and/or Secondary servers that host the Voicemail Pro application. Contact Recorder for IP Office Server Edition should not be installed when loading a Primary or Secondary server.

We have also changed the name of the software from Contact Store for IP Office (CSIPO) to Avaya Contact Recorder for IP Office (ACRIPPO). This name change is reflected in the management screens and documentation.

5.8 Server Edition Security Enhancements

R9.0 brings in several security enhancements for Server Edition.

5.8.1 Single Sign-On (SSO)

R9.0 extends the Single Sign On (SSO) feature to Voicemail Pro, one-X Portal and Web Management. To achieve this, new Server Edition installs (but not upgrades) activate a 'referred authentication' feature. This feature refers all login requests to the local IP Office, using its security settings. Web Manager, by the use of its 'Synchronise Security Database' feature, ensures the same user accounts are on all systems, including the Application Server.

5.8.2 Username/Password support

R9.0 brings in username/password support to login (rather than *login code*) to sign in to the various IP Office clients (Softphone, one-X Portal, one-X Mobile, Flare etc.). R9 introduces the ability to set a system-wide user password policy, and the ability for a user to manage their password. Users can change their password from one-X Portal.

Key Features

1. User passwords can still be set in Manager:
 - a. Complexity violations are shown as errors

- b. Configuration can still be saved, except for system locale France2
2. User password policy is set in the security settings
3. One-X Portal provides the mechanism to change passwords (even if they are not licensed one-X Portal users)

5.8.3 SIP – TLS

R9.0 brings in Secure SIP support for trunks and extensions

1. Configured in manager – the IP Office SIP registrar can accept TLS registrations, SIP trunks can be configured for SIP-TLS.
2. Optional separate telephony identity certificate (and checks) used by IP Office.
3. A 'Strict SIPS' setting on System|Telephony|Telephony prevents conversion from SIP-TLS to SIP by IP Office

5.8.4 Identify Certificates

R9.0 Server Edition extends the capability to securely distribute the IP Office identity certificate. Now you can have a single certificate for the Server Edition supported on the Linux Server.

IP Office identity certificate can be copied to:

1. One-X Portal web server
2. Web Management web server
3. WCP web server

5.8.5 TLS/SRTP for Remote Clients via Avaya Session Border Controller for Enterprise (ASBCE)

IPO R9.0 provides support for the Avaya Session Border Controller for Enterprise. This appliance supports remote user endpoints to register to the IP Office via the back-to-back user agent of the SBC. This allows for the following clients to utilize SRTP for encryption of the data stream and TLS to support call control and signalling.

1. Flare Experience iPad
2. Flare Experience Windows
3. One-X Mobile Preferred for Android
4. One-X Mobile Preferred for iOS

See Section 5.2.4 for more detail on the Avaya SBCE support.

5.9 Server Edition Licensing Enhancements

5.9.1 VM Pro Licensing Changes for Resiliency support

This feature eliminates the need to have a second set of VM Pro Ports on the Secondary (Resilient) Linux Server in order to support Voicemail resiliency. Now all varieties of VM Pro licenses can be administered on the Primary alone and are applied to the secondary as well. All features of VM Pro will now become active on the secondary during failover without the need for a second set of licenses. The grace period is still applicable when the Primary is not available.

5.9.2 Upgrade Licenses

In order to upgrade R8.1 Server Edition system to R9.0, an upgrade license SKU can be installed.

Key Features

1. One upgrade license count per node (equal number of Server Edition licenses and Upgrade licenses).
2. All upgrade licenses installed on Primary server and managed centrally.
3. If insufficient licenses are present, any unlicensed node can still be managed but cannot make calls (as per IP500 V2).
4. Application Server does not require any upgrade (or edition) license

5.10 Server Edition Multi-site Telephony Features.

Following are the SCN (multi-site) specific telephony features supported with R9.0.

1. Network-wide Park/Unpark slots (and park/page)
2. Network-wide Follow me
3. Remote Relay on/off
4. Remote hunt group night service (also used for SSL VPN link control)
5. Note: User (internal) Twinning still per-node

5.11 Other Server Edition Enhancements

In R8.1 IP Office for Linux was commercialized as an underlying product enabler for Server Edition. In 9.0 it continues this role and inherently becomes the enabler for virtualized IP Office. The aim for IP Office for Linux is that, as an all-IP solution it matches all relevant capabilities of IP500 V2 and extends this for Linux where appropriate. IPO R9.0 furthers this aim with items mentioned below and addressed already in the complementary sections on Server Edition and Virtualization.

5.12 Consolidation of Linux Images

To simplify the availability of IP Office Linux software to Partners, the IP Office and Applications Server Linux images are combined as a single image. Distinction for what is implemented in any specific case is determined as part of the ignition process that a Partner goes through when deploying the software. This consolidation is applicable to both virtualized and non-virtualized images.

Several IP Office for Linux operational enhancements have been implemented to improve maintenance and diagnosis capabilities. These capabilities are part of Avaya's continued emphasis on product and service quality and should assist in reducing resolution times with any IP Office for Linux problems reported to Avaya

5.13 USB Install for Linux

This new capability provides an alternative to DVDs for installing and upgrading IPO for Linux systems. NOTE: This is not applicable on virtualized IP Office systems.

5.14 Virtualization

IP Office R9.0 introduces a virtualized version of IP Office. This software allows IP Office to co-reside on customer provided hardware alongside other customer applications; instead of needing dedicated hardware. This provides customers with a means of better utilizing their computing resources, as well as adding flexibility in how they manage their hardware environment and applications.

Key customer value:

- Co-exist on customer provided server hardware with other Avaya or 3rd party applications
- Efficient use of customer hardware resources
- Optimized data center footprint requiring less power and less cooling (Green)
- Lower TCO; higher flexibility

5.14.1 Platform Requirements for Virtualization

IP Office virtualization is supported on VMware as the virtualization software. Minimum software and hardware platform requirements must be met:

- VMware vSphere 4.x or vSphere 5.x software
- VMware vSphere client software for management (basic client to manage the vSphere ESXi software and virtualized instances running on a single host server)
- vCenter management software is NOT required for IP Office, however may be useful, particularly where customers have a multi-host server environment
- Host hardware supporting VMware vSphere AND supporting IP Office minimum resource requirements for the desired configuration (CPU, memory) to meet the customer's configuration (see below for more details)
- VMware ESXi generally requires:
 - Intel-based CPUs from the Xeon family with 2 GHz clock speed or better
 - 6 GB or more memory - depends on number of supported users (See below for more details)
 - VMware hardware requirements:
http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1003661
Note: The site describes what hardware is required to run vSphere ESXi. The requirements to support IP Office are incremental. See tables below.
 - VMware hardware compatibility:
<http://www.vmware.com/resources/compatibility/search.php>
- The VMware vSphere software and applicable hardware must be sourced directly by the partner/customer; it is not sourced from Avaya.

5.14.2 Virtualization Packaging

IP Office R9.0 provides a virtualized equivalent of the IP Office Server Edition and Applications Server. These are packaged in a single OVA format ready for installation on vSphere supported host hardware from a PC. The OVA is available as a download from Avaya, or from an orderable DVD. Once deployed on the vSphere host, it can be ignited as one of: Primary, Secondary, Expansion, or Applications Server (VM Pro and one-X Portal).



5.14.3 Licensing for Virtualization

For virtualized IP Office there is a unique Server Edition license introduced (See the section on new material codes). This new material code is equivalent to the Server Edition license for non-virtualized deployments. It is required for each of: Primary, Secondary and Expansion system deployed – whether these are deployed on the same host server or not. All other licenses are common between IP Office Server Edition and virtualized IP Office.

Migration of licenses from an existing non-virtualized Server Edition to a virtualized Server Edition can be done as a free-of-charge license swap; assuming the customer has an IP Office Support Service (IPOSS) contract in place. This license swap is handled through Avaya’s distributors and the ADI tool. It requires the existing and new System Identification (System ID) codes to be provided.

5.14.4 Feature Support with Virtualization

As with IP Office Server Edition, the virtual IP Office can support up to 1500 users across a Primary and Secondary, and up to 30 Expansion systems. If desired these systems can be deployed as a mix of virtualized and non-virtualized IP Office systems.

Features between the virtualized and non-virtualized software are the same with a few exceptions. The first exception is installation. In the case of virtualized IP Office the ability to install and upgrade software from as USB is not supported. Similarly, Music On Hold sourced via a USB sound device is not supported on virtualized IP Office. All other enhancements to Server Edition are supported on the virtualized IP Office software.

System Identification (System ID) is determined using a different algorithm for the virtualized IP Office software. In this case, the System ID is affected by: IP Address of Lan1/Lan2, Hostname and Time zone. If after applying licenses any of these parameters are changed then the System ID will change and new licenses will be required. It is recommended that on initial installation these parameters are confirmed prior to requesting licenses.

VMware offers capabilities that can be useful in some circumstances. For example, vMotion allows the IP Office software to be seamlessly moved from one hardware host to another, which can assist in managing multiple servers. VMware vCenter is required. The Performance tab in the vSphere

client offers resource monitoring, and with the VMware vCenter software deployed additional history of the resource monitoring is possible. Finally, the Snapshot feature allows saving and recovering IP Office configurations from VMware. To make use of Snapshot the application VM must be turned off.

5.14.5 Hardware Resource Management

VMware vSphere facilitates the sharing of hardware resources between applications. Memory, CPU capacity and input/output capacity are the primary resources being shared and each require configuration per application. The two key parameters needing to be configured for each application running on vSphere are: Reserved and Allocated. Reserved resources are dedicated to the application while Allocated resources are shared. Essentially, this can be interpreted as Reserved representing a minimum resource level requirement and Allocated representing a higher resource level that is required from time to time.

Each table below provides a guideline for Allocating and Reserving hardware resources for the IP Office software. This is based on several deployment characteristics including: how system is ignited (Primary/Secondary, Expansion, etc.) and how the system is used (number of users, with/without one-X Portal etc.). These Allocated and Reserved values are meant to serve as a guide and may have to be adjusted upwards or downwards based on the specifics of the solution. VMWare vSphere Client can be used to monitor actual resource usage over a period of time and can assist in tailoring resources for optimal use. In addition, IP Office provides alarms (warning and critical) for CPU, memory and I/O to indicate when usage levels reach a high level compared to what is reserved.

Resource Configuration Steps:

1. Consult the relevant table below depending on the role of the OVA.
2. Determine the use case that most closely matches the customer deployment.
3. Set the resource values of the OVA in vSphere to the values from the table.
4. Monitor and optimize over time.

Note: The tables below will be finalized by GA of IP Office R9.0; some adjustments may occur. It is recommended that post-GA the IP Office Virtual Machine Deployment document is referenced for the current and detailed view.

Primary / Secondary

Number of Users	OneX Feature	Allocated Resources			Reserved Resources	
		Aggregate CPU (GHz)	Number Of Cores	RAM (MB)	Aggregate CPU (GHz)	RAM (MB)
20	Yes	2.04	2	4096	2.04	4096
50	Yes	3.23	2	5234	2.59	4188
100	Yes	3.45	2	5234	2.76	4188
200	Yes	5.22	2 - 3	5234	4.18	4188
500	Yes	10.12	3 - 6	5785	8.1	4628
1000	Yes	13.25	4 - 7	6459	10.6	5168
1500	Yes	14.44	5 - 8	7045	11.56	5636

Expansion

		Allocated Resources			Reserved Resources	
Number of Users	OneX Feature	Aggregate CPU (GHz)	Number Of Cores	RAM (MB)	Aggregate CPU (GHz)	RAM (MB)
10	Yes	0.73	1	981	0.59	785
50	Yes	0.93	1	1080	0.75	864
100	Yes	0.75	1	1235	0.6	988
500	Yes	1.45	1	1336	1.16	1069
750	Yes	1.28	1	1299	1.03	1040

Application Server

		Allocated Resources			Reserved Resources	
Voice Mail Channels	OneX Users	Aggregate CPU (GHz)	Number Of Cores	RAM (MB)	Aggregate CPU (GHz)	RAM (MB)
20	50	4.23	2 - 3	4712	3.39	3770
50	100	7.34	3 - 4	4777	5.88	3822
100	250	15.98	5 - 8	5758	12.79	4607
100	500	19.74	6 - 10	7874	15.8	6300
150	750	19.87	6 -10	9538	15.9	7631

Storage and Input/Output:

The minimum storage requirement in all cases is 100GB of hard drive space. For network connectivity, two Ethernet ports available for application traffic are recommended. Network traffic I/O and storage I/O will vary depending on customer and solution. A typical scenario might have for example network traffic I/O reaching 60MB/s of network traffic and storage I/O reaching 45MB/s. These should represent small overhead on CPU capacity and will create alarms warning when utilization exceeds levels defined in the software. Alarms on resource levels are meant to be a guide for identifying potential problems.

5.15 IP Office Anywhere Demo Software

IP Office Anywhere demonstration software is being enhanced with R9.0 to allow for the demonstration software to be configured as an SME standalone demo system or as a multi-node Server Edition demo system. The IP Office Anywhere R9.0 demonstration software will be available for download coincident with IPO R9.0 General Availability.

5.16 Web Manager Evolution

IP Office Web Manager was initially launched with IP Office R8.0 to support the Basic Edition.

In R8.1 Web Manager’s use was expanded to include the Automated On-Boarding functionality required to support the introduction of the IP Office Support Services (IPOSS) offering. A complementary Web Control Portal was also introduced in R8.1 to support the multi-site administration for solutions running Server Edition solution.

The next step, in Avaya’s plan to further evolve the IP Office Web Manager into a single, comprehensive management tool for IP Office, is available in R9.0. IP Office R9.0 delivers the following Web Manager innovations:

- ▶ Web Manager for Server Edition:
 - Consolidated management platform for mid-market multi-site solution (primary, secondary, expansion, application servers). The R8.1 server management portal (Web Control) has been enhanced and integrated into Web Management.
 - Simplified Linux distribution, server and ignition options
 - Single URL management; no need to point to different servers
 - Single, one-time log-in for IP Office management including VM Pro and One-X Portal
 - Simplified task flow, intuitive menu structure and enhanced graphical design
 - Improved, solution wide back-up, restore, upgrades and user management
 - User management for User configuration, moves, adds and changes, import/export
- ▶ Web Manager for Standard Editions:
 - User configuration, moves, adds and changes, import/export
- ▶ Web Manager for Basic Edition:
 - Remote access SSL VPN configuration for Business Partners that have implemented the Avaya AVG solution for their IP Office remote access. .
- ▶ Role Based Access
 - Includes end user Day 2 administration
 - Aligns with existing IP Office role based definition

Note: The descriptions to follow focus on Web Manager operating with the Server Edition solution. In each section an explanation of what functionality also applies to other editions (Essential, Preferred, Advanced) is provided. The comprehensive version of Web Manager introduced for Basic Edition in IP Office R8.0, continues to be used for Basic Edition in R9.0.

Launching IP Office Web Manager

- Launching IP Office Web Manager is as simple as accessing the single system URL, as illustrated below, and clicking on Web Manager.

Launch Options: For All Systems



Will Open :

1. Web Manager on Primary if system is server edition Primary / Secondary or Expansion
2. Web Manager on Embedded server if system is other than server edition system

Advantages:

1. Simple URL only type IP Address of the system
2. Will Be evolved as landing page in future

Web Manager: Solution

Web Manager will open on the Solution tab of the Server Edition, providing a comprehensive view of all nodes in the solution. Primary, secondary, expansion and applications servers can be filtered to drill down to level required.

A number of tasks can be performed from the Solution tab:

Filter on the Solution:

- Filter by type of server, status of server or customer search

Direct Access to Other Management Tools:

- Single click access to IP Office Manager, Voice Mail Pro and One-X Portal management tools

Action Button:

- Solution wide backup and restore
- Transfer of the ISO software image from a remote location
- Upgrade from the primary server upgrade packages
- Synchronize the security data base of service users and passwords with the primary server

Solutions Settings Button:

- Create recurrent or one time scheduled backups or upgrades
- Specify the remote server as well as the root directory to perform the action
- Specify one or more proxies if used in a customer network
- Display all jobs scheduled in the next 24 hours
- Add an application server to the solution

Individual Node Actions:

- Initiate a backup on selected nodes
- Initiate a restore
- On-board through GRT for IPOSS product registration and remote connectivity
- Launch SSA
- Execute service commands such as reboot, erase configuration, erase security settings or view the in service date of the system



Note: Features Supported in Essential, Preferred and Advanced Editions: Back-up, restore, upload configuration and system actions are available in any view through the Configuration and Advanced tabs located at the top of the window. The solution view will open up to the dashboard page which will display the IP Office 500v2 platform with a detailed view of software and hardware inventory information.



Web Manager: Call Management

The Call Management tab facilitates user management of any users on any nodes in the solution. It is an ideal “leave behind” tool to allow end customers to perform day 2 moves, adds and changes by using a more familiar web based interface as an alternative to the IP Office Manager.

A number of tasks can be performed from Call Management Tab:

- Search field to search by name of user
- Filter by server, by user type, by user rights and hunt groups, to display all associated users
- Click on user columns to modify order of displaying records
- Edit existing user configuration parameters
- Enhanced button programming
- Add new users or delete existing users
- Import user parameters in CSV or XML format. Export user parameters in XML format.

IP Office Server Edition R9.0 Highlights Web Management – User Management View

The screenshot shows the 'Users' management interface. A search bar at the top left is labeled 'Use search area to search by name'. A dropdown menu for 'View All' is labeled 'Use filter area to select the users visible in right hand frame'. A table of users is shown with columns for Name, Extension, DID, Hunt Group, Vocalmail, and System Name. A callout 'Click to adjust list order' points to the table header. A callout 'Import all users in CSV or XML Export in XML Format' points to the 'Import' and 'Export' buttons. A callout 'Add User' to add new user to the solution' points to the '+ Add User' button. A callout 'Edit' to open detailed user and extension dialogs' points to the 'Edit' icon in the user row. A callout 'Errors/warnings associated with a user. Hover over text gives details' points to the yellow warning icon in the user row. A callout 'Page controls' points to the pagination controls at the bottom.

Name	Extension	DID	Hunt Group	Vocalmail	System Name
Demo				On	VMDemoPrimary
ExptUser10	3010			On	VM_Expt_V2
ExptUser100	3100			On	VM_Expt_V2
ExptUser101	3101			On	VM_Expt_V2
ExptUser102	3102			On	VM_Expt_V2
ExptUser103	3103			On	VM_Expt_V2
ExptUser104	3104			On	VM_Expt_V2
ExptUser105	3105			On	VM_Expt_V2
ExptUser106	3106			On	VM_Expt_V2
ExptUser107	3107			On	VM_Expt_V2

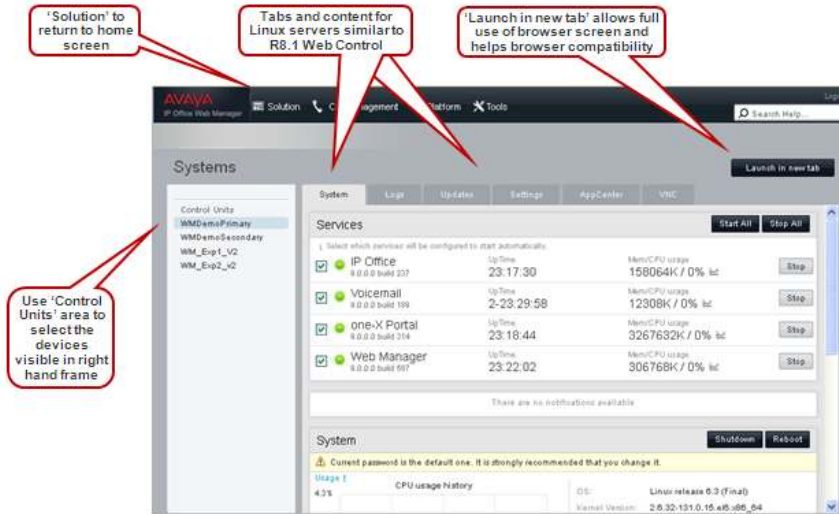
Note: Features Supported in Essential, Preferred and Advanced Editions: Same as Server Edition.

Web Manager: Platform

The Platform tab is similar to the R8.1 Web Control and provides the following functionality for the Linux servers in a Server Edition solution:

- Search by node to display Linux server parameters
- Server platform level dashboard and diagnostics including CPU, memory and disk usage
- Start / stop, update, install / uninstall platform services
- Linux system shut down or reboot
- Log management
- App Center to download IP Office applications

IP Office Server Edition R9.0 Highlights Web Management - Platform View

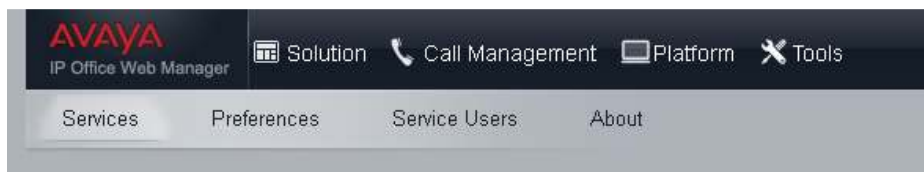


Note: Features Supported in Essential, Preferred and Advanced Editions: The Platform tab is not available for these other editions.

Web Manager: Tools

The Tools tab includes a number of service and maintenance types of functionality:

- Services:
 - Filtering by node or service type
 - Edit SSL/VPN parameters, including setting up NAPT rules
 - Add a new SSL/VPN service
- Preferences:
 - Set up application and user preferences
- Service Users
 - Synchronization of IP Office service user roles
 - Create new service users (must have security web service access rights)
 - Synchronize passwords of primary service users with the rest of the system
 - Users with security access rights can control the application preferences, user preferences and password reset for other service users



Note: Features Supported in Essential, Preferred and Advanced Editions: Same as Server Edition with the addition of the On Boarding functionality.

5.17 SIP Trunks

Service Providers continue to broaden their SIP trunk offerings and SME customers are increasingly evaluating and adopting SIP trunks. IP Office R9.0 continues to respond to these market trends, with several new SIP trunk capabilities, designed to simplify and address a wider set of implementation scenarios. The IP Office architecture brings the benefits of Session Initiated Protocol (SIP) to the enterprise customer through SIP Service Providers. To help enable the SIP Service Provider, Avaya operates a comprehensive SIP Compliance Testing Program referred to as GSSCP. This program will validate the operation of the IP Office solution, with the Service Provider's SIP trunk offering.

For more information about Avaya's SIP Compliance Testing Program (GSSCP), please refer to the following link:

<https://enterpriseportal.avaya.com/ptlWeb/bp/so/CS201172610238111040>

New SIP Trunk Capabilities

Direct Media on IP Office 500v2 Platform

Direct media allows all IP endpoints to send RTP directly to each other rather than having all media flowing through the IP Office. This reduces network and VCM utilization for more optimized implementations.

SIP Trunks Alarm Enhancements

This enhancement enables IP Office to generate an SNMP Trap when there are no free channels available to handle a call on a SIP Trunk. It allows external applications to monitor the performance of an IP Office, and determine whether it is sufficiently provisioned

Fax Enhancements for Super G3

IP Office R9.0 enables SIP Trunks to detect tones generated by Super G3 fax machines and configure the DSP channel with the appropriate codec and ECAN settings. This is applicable for Service Providers that support higher data rate fax machines. Fax enhancements for Super G3 are only available on the IP Office 500 and 500v2, not on the Linux servers.

SIP Response Mapping to ISDN (Q.850) Cause Values

For SIP calls this feature sends and receives Reason headers with Q850 content. This header is included in specific SIP response messages as specified in RFC3398. The Q850 content includes an ISDN cause value and text.

RFC2833 Default Payload Configuration Option

It is now possible to configure the default RFC2833 payload to be used when initiating SIP calls. The enhancement addresses the situation where some devices and networks cannot negotiate the dynamic payload type for RFC2833, and insist on a value different from the IP Office default of 101.

Session Refresh Enhancements

IP Office will now have the ability to initiate the use of SIP Session Timers on SIP/SM Trunks, whether the other end, supports it or not. SIP Calls between IP Office endpoints, can now make use of this mechanism to detect the loss of SIP sessions caused by failure in the network path or remote endpoint, freeing up resources appropriately

Direct Early Media Support plus UPDATE with SDP (see Note 1)

Early Media includes audio (e.g. ring back, remote tones or announcements) heard before the far end answers. Early Media is considered to be Direct when the media is sent directly from one IP endpoint to the other rather than being anchored by the IP Office. In some call scenarios (e.g. blind transfer) a SIP UPDATE must be sent to the far end to inform it of a new destination for the media stream. Using Direct Early Media can reduce network bandwidth consumption and VCM utilization on the IP Office network.

P-Early-Media Header for Remote/Local Progress Tones (see Note 1)

The P-Early-Media Header is used by some SIP trunk providers when there may be multiple early media sources. SIP calls may be forked, resulting in multiple early sessions to be established, but it is not clear to the originating party which session should take precedence. This feature allows the network to indicate which early media to play to the caller.

SIP Trunks Empty INVITE support (see note 1)

IP Office can now allow incoming SIP trunk calls to the IP Office without SDP in the INVITE. These (slow starts) were formerly rejected with a 503 Service Unavailable response. The Offer/Answer model allows for an INVITE with no SDP, but then the OFFER must present in the 200 OK, and the answer is then provided in the ACK. The Offer/Answer model allows for an INVITE with no SDP, but then the OFFER must present in the 200 OK, and the answer is then provided in the ACK.

Note 1: Supported only on the France2 locale.

5.18 Automated On-Boarding and SSL/VPN Related Enhancements

IP Office R8.1 included the successful introduction of the new IP Office Support Services maintenance offer. To support the offer, Automated On-Boarding and SSL/VPN functionality was introduced in the R8.1 product.

IP Office R9.0 builds upon the initial introduction by expanding the IP Office elements that can use the Automated On-Boarding and SSL/VPN connection, providing release over release updates to the inventory file to represent new hardware elements and additional material codes required to support the evolution of the IPOSS offering.

Key enhancements include:

- SSL/VPN manual configuration for Basic Edition through Web Manager so as to facilitate the use of SSL/VPN by Business Partners who are establishing their own SSL/VPN infrastructure. In R8.1 manually configuring SSL/VPN was limited to using IP Office Manager and therefore one could not configure SSL/VPN tunnels to systems running Basic Edition.
- SSL/VPN Automated On-Boarding for the external Linux applications server used with IP Office. In R8.1 these servers required manual registration which added an extra step when completing the processes associated with establishing an IPOSS contract.
- Expanded use of the Network Address and Port Translation (NAPT) feature, introduced in R8.1 FP1, to work with the Linux servers thereby completing the solution coverage. With NAPT support, the SSL/VPN tunnel can be enabled to remotely access LAN devices on the private side of the IP Office 500v2 or the Linux servers. An SSL/VPN tunnel configured to the

IP Office can now be used to remotely manage devices such as the IP Office Unified Communication Module (UCM), the IP Office external UC applications server running Preferred Edition or Advanced Edition, the Avaya Session Border Controller for Enterprise (ASBCE) and other LAN devices.

- Updates to the automated the inventory file created as part of the Automated On-Boarding to include new hardware material codes introduced in this release. This ensures the most accurate installed base information can be extracted from the IP Office.

5.19 Other IP Office Support Enhancements

IP Office software, in service date, for warranty and support tracking:

The IP Office will retain a service date for software that can be retrieved using a web services call. This service date will be the following format
X.0.0.0 YYYY-MM-DD

For example
9.0.0.0 2013-07-01

- This date is set the first time the software is executed and then only overwritten if a higher release is executed than what is stored. If the date is not set then it will only be set on first call. If it is not set an error will be returned.
- The date is the current date set of the system.
- It is set for each release that requires a software upgrade license

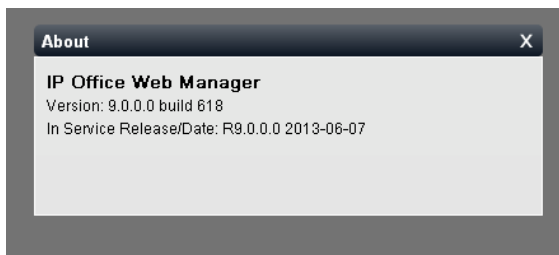
It is not set if the release value is a lower value. This prevents systems from downgrading and the reinstalling the new software to reset the date

The service date will be stored in the flash on the IP Office v1/v2 system and therefore relates to the date the unit was loaded with the software.

The in service date will be store in a new field in flash memory. The service date will only apply starting in IPO R9.0, the service date will not be erased if a system is downgraded.

The service date will be displayed by the Web Management client.

Tools -> About [In-Service Time with version]



Alternatively:

Web Management: Solution -> Node Settings [For each node] - Service Command - In Service Date
Standalone IPO

Web Management: Tools -> About [In-Service Time with version]

System Monitor (SysMon) Enhancements:

There are a number of valuable enhancements to System Monitor delivered in R9.0 which will further improve the diagnostic capabilities of the IP Office solution. These include:

- **Activating System Monitor:** All nodes in an IP Office R9.0 Server Edition solution are able to send their SysMonitor messages to the syslog server running in the Primary server. This can be activated or deactivated in Manager as required.
- **Configuring System Monitor Filters:** The syslog filter options are configured by using SysMonitor. By default only Print, Error, Resource and Licensing events are filtered. The filters / trace options in SysMonitor allow the selection of various desired filters to be sent to syslog.
- **Decoding Data:** The encoded SysMonitor syslog messages are only readable by the SysMonitor application. Open the SysMonitor application within Web Manager on the primary server and ensure that text logging is enabled (enabled by default in R9.0). Open the log files to be decoded and decoded messages are displayed.
- **Other System Monitor Enhancements:** SysMonitor logging to file is enabled by default. Log files are rolled over according to settings. Filter labels are also more descriptive with Verbose/Standard/Terse options for SIP events, media events and VoIP events.

Alarm Filtering:

- Alarm filtering is now available based on severity to complement the current filtering by component.

5.20 Integral Vertical Market Transition to IP Office

As the Avaya Small to Medium Enterprise Communications (SMEC) business expands in Germany, there is a need to ensure that Vertical Market applications supported with the Integral solution be supported also on IP Office.

As such, a number of new capabilities were identified as critical to supporting the Med Com (Healthcare), Se Com (Seniors/Assisted Living) and Hot Com (Hospitality industry). These enhancements predominantly impact underlying web services and SMDR operations. The delivery of this functionality will allow IP Office to be positioned as a full replacement for the Integral product and continue the SMEC consolidation into the IP Office solution, as well as expanding the German market opportunity. In addition, support will be enabled for Customer Interaction Express (CIE), a German market specific contact center solution, to work with IP Office further augmenting the Integral Vertical Market transition.

SeCom (Seniors/Assisted Living)

- Serves nursing homes, spas and rehabilitation hospitals
- Efficient monitoring of residents' emergency calls, telephony and other facilities related equipment
- Manages requests from different areas of a seniors' facility (residents, care service, administration.)

HotCom (Hospitality industry)

- Serves hospitality industry with features such as multiple wake-up calls, check-in/check-out, message waiting, call charge processing
- Offers various options in HotCom PMS systems or advanced connectivity to third-party PMS vendors via BCS and HotCom+ interface to cater for any size from small hotels up to hotel chains and networks
- Enables connectivity and communication with typical hospitality applications like POS/restaurant cash terminals, alarm/emergency handling, door-lock systems, guest-room multimedia incl. Pay-TV/Pay-per-view, etc.

Customer Interaction Express (CIE)

CIE is a multimedia multisite Contact Center solution for the German Market. The CIE on IP Office ensures the transition from Integral with CC solutions to an IP Office contact center solution.

CIE is an all-in-one customer service solution running on a virtualized or dedicated server

- Installation and configuration with a standard call flow in about 4 hours.
- Inbound / outbound, Web Callback, E-Mail, Fax, SMS and Chat
- Single, permissions based, User Interface for all Users
- Historical and Real Time Reporting for all channels
- Skills based routing, last agent routing
- Graphical 'workflow' editor
- Integrated IVR with DTMF, TTS, ASR support and access to ODBC enabled databases
- Support of Server-Edition and IP500V2 in single and multisite environments
- Home and mobile worker support

5.21 Audio Quality Improvements

IP Office Audio Quality improvements:

- IPO Loss plan to be TIA 912 A/B standard compliant for all supported call scenarios (endpoint to trunk to endpoints to endpoints). Also ensure that all phones now with fixed loss plan will work with IP Office 500 V2 9.0 in compliance with TIA 912 A/B
- Improve resilience and performance of voice subsystem to allow for Type of Service prioritization (voice service priority through system)
- RTP filter introduces voice quality improvements and better classification on ingress traffic received in IP Office IP500 V2. Three new filters have been added and the Status>RTP session tool added three new columns for 'fast path' stats and Relay ID

5.22 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.

R9.0 delivers in two main areas:

- IP Office One-X Portal Call Assistant Accessibility
 - The Call Assistant is enabled for accessibility in R9.0 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.



- The Call Assistant Accessibility Features Include:
 - Accessibility enablement is integrated into the standard Call Assistant application as a configuration option
 - Allows people with visual impairments or people who are blind access to the same information that a sighted user can obtain by looking at the telephone
 - Male or female voices
 - Voice announcements in English, French and Spanish
 - PC keyboard controls to request phone status, play last announcement, mute all announcements, etc. These keyboard operations are important as people who are blind cannot use a mouse.
 - Comprehensive set of hot keys to perform operations and read out details.
 - Announcement settings and announcement selection provide flexibility for the user to customize the behavior to their personal preferences
 - Support for the latest Windows operating systems (see section 5.23 for further details)

- The R9.0 version of Call Assistant with the new accessibility enablement replaces the previous standalone IP Office Phone Status Application which will no longer be sold as of December 2013.
- 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 R9.0 include:
 - IP Office Solution
 - IP Office Branch
 - IP Office Voice Mail Pro
 - IP Office One-X Portal Call Assistant
 - VPATS will be posted at the following <http://www.avayagov.com/accessibility/>

In addition to the three R9.0 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.

5.23 Operating System and Browser Support

R9.0 Operating System and Browser Support is summarized in the tables below.

Operating System Support - Server Components

Application	XP Pro		Vista		Win 7		Win 8		Server 2003	Server 2008/2008R2		Server 2012
	32 bit	64 bit	32 bit	64 bit	32 bit	64 bit	32 bit	64 bit	32 bit	32 bit	64 bit	64 bit
Preferred Edition Server (VM Pro) Standalone	Y	N	N	N	Y	Y	Y	Y	N	Y	Y	Y
... Plus UMS	N	N	N	N	N	N	N	N	N	Y	Y	Y
... Plus Campaigns	N	N	N	N	N	N	N	N	N	Y	Y	Y
... with IMS	N	N	N	N	N	N	N	N	N	Y	N	N
Contact Store Server	N	N	N	N	N	N	N	N	N	Y	N	N
one-X Portal for IP Office Server	N	N	N	N	N	N	N	N	N	Y	Y	Y
Customer Call Reporter Server	N	N	N	N	N	N	N	N	N	Y	Y	N
TAPI - 3rd Party & TAPI WAV	Y	N	N	N	Y	Y	Y	Y	N	Y	Y	Y

Operating System Support - Thick Client Apps

Application	XP Pro		Vista		Win 7		Win 8		Server 2003	Server 2008/2008R2		Server 2012
	32 bit	64 bit	32 bit	64 bit	32 bit	64 bit	32 bit	64 bit	32 bit	32 bit	64 bit	64 bit
Preferred Edition Client	Y	N	N	N	Y	Y	Y	Y	N	Y	Y	Y
SoftConsole Manager	Y	N	N	N	Y	Y	Y	Y	N	N	N	N
SysMon	Y	N	N	N	Y	Y	Y	Y	N	Y	Y	Y
SSA	Y	N	N	N	Y	Y	Y	Y	N	Y	Y	Y
TAPI 1 st Party	Y	N	N	N	Y	Y	Y	Y	N	Y	Y	Y
TAPI WAV	Y	N	N	N	Y	Y	Y	Y	N	Y	Y	Y
IP Office Video Softphone	Y	N	N	N	Y	Y	N	N	N	N	N	N
Flare	Y	N	N	N	Y	Y	Y	Y	N	N	N	N
one-X Portal Plug-In for Outlook	Y	N	N	N	Y	Y	Y	Y	N	N	N	N
one-X Portal Plug-In for Salesforce.com	Y	N	N	N	Y (2)	Y (2)	Y (2)	Y (2)	N	N	N	N
Call Assistant	Y	N	N	N	Y	Y	Y	Y	N	N	N	N
Plug-In for MS Lync 2012	Y	N	N	N	Y	Y	Y	Y	N	N	N	N

Notes:

1. With matching IE - use IE8-32bit on Win7-32bit, IE8-64bit on Win7-64bit
2. XP support is IE8

Mac Thick Client Apps

Application	OSX 10.5 Leopard	OSX 10.6 Snow Leopard	OSX 10.7 Lion	OSX 10.8 Mountain Lion
IP Office Video Softphone	N	Y	Y	Y (1)

Browser Support for IP Office Applications

Application	IE8	IE9	IE10	FF16	FF17	Chrome 23	Safari 6.0
VM Pro Campaigns Client	Y	Y	Y	N	N	N	N
VM Pro UMS WebMail	Y	Y	Y	N	N	N	N
Contact Store Client (4)	Y	Y	Y	N	N	N	N
one-X Portal for IP Office Client	Y (5)	Y	Y	Y	Y	Y	Y
CCR Thin Client	Y	Y	N	Y	Y	Y	Y
Web Manager	Y	Y	Y	Y	Y	N	N
Web Control Page	Y	Y	Y	Y	Y	N	N
Salesforce.com Plug-In	Y (3)	N	Y (3)	Y	N	N	N
D100 DECT Admin	Y	Y	Y	Y	Y	Y	Y
IP DECT R4 Admin	Y	Y	Y	Y	Y	Y	Y

Notes:

1. User will explicitly have to allow the app to install/run after a warning from the O/S
2. Win XP only
3. With matching IE - use IE8-32bit on Win7-32bit, IE8-64bit on Win7-64bit
4. 32bit Windows only
5. Not on Server O/S

5.24 Avaya Video (RadVision/Scopia)

IP Office R9.0 delivers several enhancements for video:

- Support for Data/Web sharing via Scopia clients when using Radvision MCU or Video Collaboration Solution for IP Office.
- Support for Flare client to work as a participant in a multi-party videoconference via Radvision MCU including Video Collaboration Solution for IPO.
- Support to allow Radvision XT5000 to connect to IPO as SIP endpoint using Avaya IP license, removing the need for 3rd party license for this device. This support includes Video Collaboration Solution for IPO.
- Fixed several issues to complete interoperability with Radvision 8.1 and EP3.2 firmware as part of Day 180 interop with Radvision Elite MCU connected via SIP trunk.

See the Video Collaboration Solution for IP Office Offer Definition for more details [here](#).

5.25 IP Office Customer Call Reporter (CCR)

The IP Office Customer Call Reporter (CCR) is a call center reporting application for use with Avaya IP Office systems focused on the SME market (not supported on IP Office Server Edition). CCR can report on both individual call center 'agents' and on the queues (hunt groups) of which those agents are members. CCR is accessed through a web browser using a name and password to login. Those login details determine whether the CCR web client runs in agent, supervisor, administrator or wallboard mode. Capacity of CCR is up to 150 Agents and/or 30 Supervisors and 1 Administrator.

For IP Office Release 9.0, CCR introduces new wallboard enhancements, a number of report enhancements and a new custom reports wizard to energize the small to medium enterprise with extensible contact intelligence.

Enhancements to reports include:

Lost Calls	Custom Reports Wizard
Answered Calls	Overflow Answered
Overflow - Lost	Incoming - External
Routed to Other	Internal Calls
Transferred Calls	New Custom Reports
Rename Lost to Abandoned	Customer Calls

Wallboard enhancements include:

- User Color Scheme per Cell
- Display Agent States in Different Colors

Also included is support for SQL 2012

5.26 IP Office Security Enhancements

The combination of B5800 and IP Office bring with it some enhancements in TLS/SRTP and other security mechanisms when used as a centralized branch deployment. See the Branch Offer Definition for more details. There are also enhancements in SSL/VPN and Single Sign On with certificate support introduced in this release for all operation modes.

See the following sections for details:

1. Avaya SBCE Support for IP Office Section 5.2.4
2. **Error! Reference source not found.** Section 5.26

5.27 ATM4u v2 and Combination Card ATM v2 Type Approval

For time to market reasons, not all countries were type approved at the time of the 8.1 FP1 release. Remaining countries approved with R9.0 are listed in the table in Appendix A. There are no new features being introduced with this release on these products.

The new ATM4 V2 card is centered on enhancements to the function and operation of the analog trunk card. This same ATM card is used with the Combination card ATM V2 as the analog trunk interface. Enhancements introduced with 8.1FP include impedance matching to trunk characteristics, improved echo reduction and reduction of occasional noise. Line connectivity status: line connected to the cards will be shown on port LED and also on SSA.

Material codes and descriptions:

700503164 IPO IP500 TRNK ANLG 4 UNI V2

700504556 IP500v2 COMBO CARD ATM V2

Pricing will be the same as the version 1 cards. Version 1 cards will be discontinued at the end of calendar year 2013. A separate end of sale notice will be issued with time frames for discontinuance.

The new ATM4U V2 and Combination Card ATM V2 require the IP Office 500 V2 chassis and will work with IP Office release 8.0, 8.1, 8.1 FP1, 9.0 and B5800 R6.2.

Appendix A contains a list of all countries with type approval for the ATM V2 and Combo Card ATM V2.

5.28 Server Refresh

The current servers that run IP Office Server Edition are being refreshed with new updated server technology. Currently supported HP DL120 server material codes will remain available for last time buys and customer expansion needs until June 2014 subject to product availability. A separate end of sale notice will be issued with time frames for discontinuance.

The HPDL120 is being replaced by the DellR210 server. Please refer to the IP Office Server Edition Capacity table to see details on DellR210 support.

New material codes will provide server support for IP Office UC applications processor, IP Office on Linux for France Telecom deployments and Server Edition secondary server deployments.

The Dell R210 model will be supported by IPO R9.0 and subsequent releases only and will not be backward compatible to IPO R8.1. IPO R8.1 customers with HP DL120 servers may upgrade to IPO R9.0.

5.29 New Digital Station 30B and Digital Station 16B Modules

Digital station modules with RJ45 interfaces ("B" version) will support Avaya IP Office phones (DS mode) or heritage Nortel digital phones (BST mode). DS or BST phones may not be mixed on a module. Modules supporting either DS or BST may be mixed on each IP Office control unit. Pricing for the new units is the same as existing DS modules.

The DS16B and DS30B will target customers who are purchasing Avaya IP Office phones or who may be migrating from BCM/Norstar to IP Office and will reuse their digital phones. With the use of the DS16B and DS30B they will be able to use their existing BCM and Norstar phones, and migrate to IP Office Avaya digital telephones at a future time using the same module by selecting the appropriate operating mode in IP Office Manager.

The DS16B/30B modules operate in either DS or BST mode on IP Office release 8.1 FP1 and later on IP Office 500v2 systems.

- The DS16B/30B modules operate in DS mode only on IP Office releases 8.0 through to 8.1 on IP Office 500v2 systems.

- The DS16B/30B modules operate in DS mode only on IP Office releases 8.0 and beyond on IP Office 500 systems.

Digital phones supported for IPO R9.0 are listed in Section 8. Digital phones supported with IP Office remain the same for DS or BST phones according to each release.

- DS mode for 14xx/24xx/44xx/54xx/95xx/T3 series phones (also referred to as UPN phones)
- BST mode for T7000/M7000 series phones (also referred to as TCM phones)

Loop lengths are the same as existing DS16/30 and DS16A/DS30A for respective UPN and TCM phones.

Existing DS16 (7004449499) and DS30 (700426216) RJ45 modules will remain available for a period of time to support transition and last time buys. Target end of sales for these units is March 2014 and will be addressed in a separate end of sale notice.

Note: Type approval for sale in Brazil for the new DS 16B/30B will be available in November 2013

5.30 FQDN for STUN/SMTP

With Release 9.0, STUN server may use a Fully Qualified Domain Name (FQDN). All SMTP usages in the IP Office core software allow the SMTP address to be specified as FQDN (Fully Qualified Domain Name).

In earlier releases, the STUN server needed to be an IPv4 address format. The FQDN mapping to IPv4 addresses is resolved by the primary or backup DNS server IP addresses configured on IP Office.

5.31 Migration to IP Office

Several enhancements were delivered to address feature behavior with heritage Nortel features.

- Auto Intercom Deny: prevents auto intercom call acceptance to ensure customer endpoint/device privacy
- “Message for you”: Idle message waiting display for voice mail messages on BST phones
- Name/number swap: Enables user to alternating BST phone display of CLID Name or Number while phone is ringing and after call is answered
- IP Office Manager will highlight connected phones that are not fully supported by IP Office. Will provide flag for all non-global BST phones and Avaya digital phones 64xx series

5.32 IP Office Call Park and Page Enhancements

IP Office R9.0 delivers three key enhancements to IP Office Park and Page Feature:

1. Central Park & Page

Provides a simplified option to Park/Unpark calls. The feature enables a call to be answered by reception, parked, page sent, far end dials 101 to UnPark and answer call.

- Dedicated feature/button – Park and Page
- Feature 74 on BST phones becomes Park and Page request if enabled
- “Enabled” means there is a Central Park Range defined. “Central” Park labels are created from administrator defined range.
- An occupied Park label becomes part of dialing plan
 - E.g., Dial Park label “1234” from Call Appr to Unpark call

- Full UI support for 95xx/96xx, 14xx/16xx, BST, and SIP 11xx/12xx sets.
Caveat: on SIP 11xx/12xx sets, Page presented as option when Park invoked via programmed P&P button, but not when invoked via Feature 74.
 - Short code for Park and Page exists for phones that do not support the UI (inc. POTS)
 - Allows unsupported phones to Park and “know” the Park slot for later retrieval
2. Auto Attendant Park and Page Action Automation
 - Unanswered incoming call results in a redirect to notify need to pick up the call
 - Calls are answered by AA with prompt and notice given to the customer
 - Calls are automatically parked and a page issued to notify the need to pick up the call
 - No administrator, operator or customer action necessary.
 3. SCN Awareness of Park/unPark
 - All nodes with R9.0 distribute information about their parked/unParked labels across the SCN

5.33 IP Office Internationalization and Localization Enhancements

Turkish and Polish

User interface language selection for 96x1 phones

Essential Voice Mail: Polish

Preferred Voice Mail Pro and Essential Voice mail: Turkish

Other supported elements for Turkish and Polish were delivered with the 1Q R8.1 Service Pack

Ireland locale support

Malaysia locale support (available with 1Q R8.1 Service Pack)

Russian Federation: IP Office R9.0 will be type approved and available for sale in Russia.

5.34 Phone Enhancements

IP Office Release 9.0 packages the 96x1 H.323 Release 6.3 phone firmware. The following major functionality is supported with IP Office:

- Direct Media Call Preservation
 - Maintain an existing Direct Media Call even when the connection to the Call Server has been lost
- Virtual Private Network (VPN)
 - Supports secure telephony when used with a VPN enable router
- Turkish and Polish User Interface Language selection
 - Both phone and IP Office driven displays – select from the phone or by Call Server
- Automatic SBM24 Button module detection and support
- Both BM12 and SBM24 button modules are now supported with IP Office easing the upgrade path for customers with 9600 and SBM24 hardware.

5.35 96X1 VPN Support

VPN Client of 96x1 phones is now supported with IP Office R9.0, including the 9608, 9611, 9621, 9641 models.

5.36 ATM Combination Card support for programming ALS and line appearances for all analog/POTs extensions in Basic Edition

- Simplified Manager, Web Manager and TUI allows programming ALS and Line appearance options
- Any analog extension may dial 9 against intercom dial tone to access next available line in ALS list

5.37 Call Admission Control (CAC)

Call Admission Control (CAC) allows improved management of VoIP calls to match the network bandwidth available. By controlling the number of allowed calls from/to specific locations the quality of VoIP for a given network deployment can be more deterministic.

5.37.1 Key Concepts:

The concept of Location has been created to assist in managing CAC (as well as enhancing emergency information). Locations apply to both single site and multi-site deployments. They are associated with one or more physical sites and are identified by an IP address and name - each Location can be identified by its subnet address and mask. Locations may or may not have an IP Office deployed – in many cases the Location may have only phones deployed.

Choice of Location naming can be done to better assist easy identification for ongoing management. IP Office, IP extensions, DECT, PSTN gateways and SIP trunks/SBC/Proxy are each placed in a Location. These Locations may be IP Office managed or unmanaged. IP Phones may be set to “Auto” where the location is calculated from the registering IP address.

To support CAC, each Location can have an explicit maxima defined for number of calls made external to that Location. These include maxima for: on-net, off-net and total calls (off-net is defined as calls to an unmanaged location via a SIP trunk). Once the maxima specified for a given location is reached the status is defined by IP Office as Congested. The Congestion is cleared once the congested parameter falls below the defined level.

Note 1: CAC management of number of allowed VoIP calls does not affect emergency calling. Emergency calls are always allowed.

Note 2: Established calls are never torn down to achieve CAC limits.

Note 3: A phone on a remote site that parks a call will always be allowed to retrieve it. This parked call will remain accounted: location limits include parked calls

Example CAC Configuration:

Location Name	IP Address	Max Calls (of all types outside location)	Max Calls (to/from public IP trunks)	Max Calls (excluding public IP trunk calls)
HQ	0.0.0.0	40	40	40
RS1	172.10.1.0	5	5	3
RS2	172.10.2.0	10	7	10

For Server Edition, Location configuration done “solution-wide” - all IP Office Server systems deployed as part of a Server Edition solution share the same location configuration. This is enforced by the Server Edition manager.

5.37.2 Congestion Behavior:

CAC works by comparing the configured maxima and then allowing/disallowing a new call based on tracking the number of current on-net, off-net and total calls for that Location. In the case of a Primary or Headquarters Location, any calls passing through that are anchored will increment the count at Headquarters; if the call is direct it is not. Example, a call from a remote site (RS-x) made via a SIP line at Headquarters to a SIP service provider will be counted unless the media is going directly from RS-x to the SIP line.

Once congestion is determined one of several behaviours will occur depending on the circumstances (incoming/outgoing, voicemail configured/unconfigured for extension, etc.)

- Calls from extensions to public trunks through ARS will queue (WAITING-FOR-LINE), either with or without comfort tones depending upon whether congestion is exceeded by playing the comfort tone.
- Calls from extensions to public trunks which do not route through ARS will receive Fast-busy tone (for a limited duration) and display “Congestion”.
- Idle phones at a congested location will display “Emergency/Local calls only”
- Alternative routing to a local PSTN gateway will follow ARS priority escalation rules. (It can be configured to follow the PSTN alternative immediately, or wait a period before escalation.)
- Incoming calls from SIP trunk registered to HQ to RSx require both the congestion parameter for HQ Location and for RSx Location to not be exceeded.
- SIP trunk calls that are not allowed to RSx can go to HQ voicemail if Headquarter limit is not exceeded (this is a configurable option)
- SIP trunk calls that would exceed congestion and have no other targets (example: voicemail, it will be declined with cause=486 or cause = 503 (configurable option)

5.38 911 Enhancements

Release 9 replaces the legacy E911 feature with new functionality to handle the routing and notification of Emergency call based on new Location configuration objects. Support for legacy E911 add-ons is removed from IP Office R9.0.

- Dial Emergency Call Routing: On matching a Dial Emergency short code, the system will initially try to find the best matching Locations which contains an ARS to determine which line to use. In priority order this will be: Location exactly matching Extensions location; System location. If neither locations resolve an ARS record, then the fallback is provided by line group ID and the Dial Emergency short code (as in previous releases).
- Emergency Call System Alarms: Emergency Calls is a system event that can be added into the Systems Events configuration.

Information provided by the system raises an Emergency Call Alarm:

- Success/Failure to place the call
- Cause (Failed calls only)
- Default Extension number (Base Extension)
- Caller Type dependent identifier: TDM Port ID, IP address, Telecommuter/Mobility phone number, Trunk SCN/Tandem
- Location Name

6 Entitlement Period

Effective April 19, 2012, the IP Office entitlement policy was updated and all prior entitlements to an IP Office upgrade are superseded. Prior to this date, the IP Office system could be upgraded to the latest release of IP Office software during a 90 day Entitlement period and the customer could move to the latest release without purchasing an upgrade license. However, all customers must now purchase an upgrade license to upgrade to R8.1 or later.

7 Upgrading

Customers using Release 8.0 and earlier will need to purchase an upgrade to get to Release 9.0. Effective with Release 8.1, IP Office Support Services contracted customers are entitled to no charge IPO software updates/upgrades. For R8.1 customers that are not contracted with IP Office Support Services, an upgrade will need to be purchased to get to R9.0.

Corrective content is available during the 90 day warranty period. Post warranty access to corrective content (including Service Packs and Minor (aka Dot) Releases) is an entitlement of an IPOSS Agreement. Without an IPOSS agreement, post warranty corrective content is not available to the channel partner. Please note that access to service packs or updates without a customer agreement in place would be a violation of Avaya's End User Licensing Agreement.

8 Interoperability

Interoperability is segmented as follows:

IP Office Release 9.0 Interoperability Matrix	
Segment	Interoperable Products
IP Office	IP Office 8.1.1 (IPO 8.1 FP1)
End-Points	1100 Series IP Deskphones SIP 4.3 1200 Series IP Deskphones SIP 4.3 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 3.2 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 (Branch only) 9600 Series IP Deskphones 96x1 H.323 6.3 9600 Series IP Deskphones 96x1 SIP 6.2 (Branch only) IP DECT Phones 4.4 D100 DECT base station 1.0.0, D160 handset 0.8.6 B100 Series Conference Phones B179 SIP 2.3 Avaya Flare® Experience iPad 1.1 Avaya Flare® Experience iPad 1.2 Avaya Flare® Experience Windows 1.1 Avaya Flare® Experience Windows 1.2 Konftel Branded Phones for the Avaya Channel Phase I Avaya one-X Mobile Preferred for IP Office Android build 1133 Avaya one-X Mobile Preferred for IP Office iOS version 1.2.1.369
Aura Applications	Avaya Aura® Call Center Elite 6.2 Avaya Aura® Communication Manager 6.3 Avaya Aura® Conferencing 7.2 Avaya Aura® Conferencing 8.0 Avaya Aura® Contact Center 6.3 Avaya Aura® Experience Portal 6.0 Avaya Aura® Messaging 6.2 Avaya Aura® Presence Services 6.2.2 Avaya Aura® Session Manager 6.3.2 Avaya Aura® System Manager 6.3.2 Avaya Aura® System Manager 6.3.4
Additional Applications	Avaya CallPilot® 5.1 Avaya one-X® Agent 2.5 Avaya one-X® Communicator 6.1.6 B5800 Branch Gateway 6.2 Business Communications Manager 6.0 Communication Server 1000 7.6 Modular Messaging 5.2 Outbound Contact Express 1.0 Voice Portal 5.1
Data Services	Avaya Session Border Controller 6.2 Feature Pack 1 Avaya Session Border Controller for Enterprise 6.2
Other Services	Video Collaboration Solution for IP Office Radvision Scopia® Video Conferencing Infrastructure 8.0 Secure Access Link 2.1

The following table provides an overview of the Avaya phones supported on IP Office R9.0:

	8.1			9.0		
	IP Office Standard Mode	IP Office Basic Edition	Server Edition (all IP)	IP Office Standard Mode	IP Office Basic Edition	Server Edition 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	✓	-	✓	✓	-	✓
3701, 3711	✓	-	✓	-	-	-
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						
9504, 9508	✓	✓	-	✓	✓	-
BM12	✓	✓	-	✓	✓	-
9600 Series - IP H323 CM and IP Office						
9620L, 9620C, 9630, 9640G, 9650, 9650C	✓	-	✓	✓	-	✓
9670	-	-	-	-	-	-

	8.1			9.0		
	IP Office Standard Mode	IP Office Basic Edition	Server Edition (all IP)	IP Office Standard Mode	IP Office Basic Edition	Server Edition and Virtualized IP Office (all IP)
SBM24 with 96x0	✓	-	✓	✓	-	✓
9601	-	-	-	-	-	-
9608, 9611, 9621, 9641	✓	-	✓	✓	-	✓
BM12	✓	-	✓	✓	-	✓
SMB24 with 96x1	-	-	-	✓	-	✓
B100 Series - Conference Phones						
B149, B159	✓	✓	-	✓	✓	-
B179 SIP	✓	-	✓	✓	-	✓
D100/D160 DECT						
D160	✓	-	✓	✓	-	✓
Softphones						
Phone Manager Softphone (H323)	✓	-	-	✓	-	-
IP Office Video Softphone (SIP)	✓	-	✓	✓	-	✓
Flare Experience Windows	✓	-	✓	✓	-	✓
Flare Experience 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	✓	-	✓	✓	-	✓
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]	✓	✓	-	✓	✓	-

	8.1			9.0		
	IP Office Standard Mode	IP Office Basic Edition	Server Edition (all IP)	IP Office Standard Mode	IP Office Basic Edition	Server Edition and Virtualized IP Office (all IP)
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			<input type="checkbox"/>		
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						
4406D, 4412D, 4424D	✓	-	-	✓	-	-
4424LD	-	-	-	-	-	-
4450 DSS unit	✓	-	-	✓	-	-
4600 Series - IP H323 - CM and IP Office						
4601, 4602IP, 4602SW, 4610IP, 4610SW, 4620, 4621, 4625	✓	-	✓	✓	-	✓
4606, 4612, 4624	No longer supported					
5400 Series - DS Digital, IP Office only						
5402, 5410, 5420	✓	-	-	✓	-	-
EU24	✓	-	-	✓	-	-
5600 Series - IP H323, IP Office only						

	8.1			9.0		
	IP Office Standard Mode	IP Office Basic Edition	Server Edition (all IP)	IP Office Standard Mode	IP Office Basic Edition	Server Edition and Virtualized IP Office (all IP)
5601, 5602IP, 5602SW, 5610IP, 5610SW, 5620, 5621	✓	-	✓	✓	-	✓
EU24	✓	-	✓	✓	-	✓
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	-	✓	-	-	✓	-
"Euro" 34 & 18 Button Display	-	✓	-	-	✓	-
"Euro" 18 & 6 Button non-Display	-	✓	-	-	✓	-
T3 & T3 IP Series						
T3 Compact, Classic, Comfort, DSS	✓	-	-	✓	-	-
T3 IP Compact, Classic, Comfort	✓	-	✓	✓	-	✓

* 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.

9 IP Office R9.0 Interoperability

With the IP Office R9.0 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 R9.0 and Avaya Aura Communication Manager 6.3



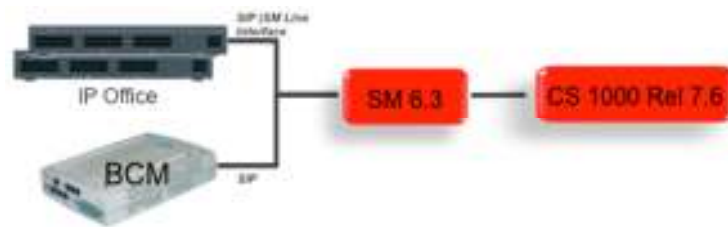
2. IP Office R9.0 and Avaya Aura Session Manager 6.3.4



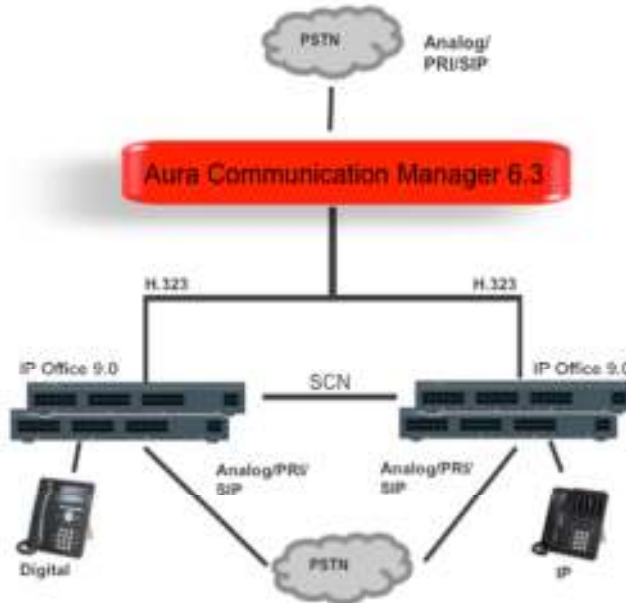
3. IP Office R9.0 and BCM 6.0



4. IP Office R9.0, BCM 6.0 and CS1000 7.6 with Session Manager



9.1 IP Office & Communication Manager Interop

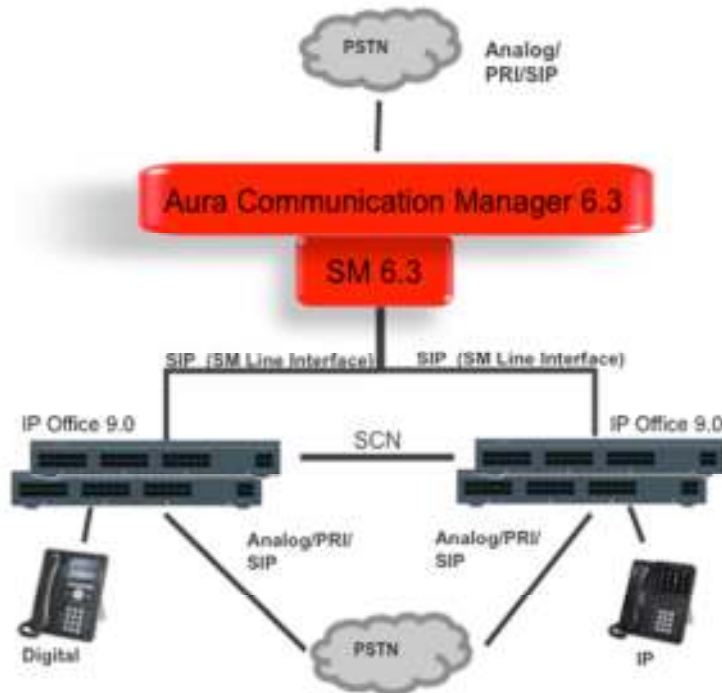


The H323 protocol is used for trunks between the IP Office nodes and the CM. The IP Offices are a network of SCNs and can use advanced SCN feature set between each other.

- **Protocol Support:**
 - IP Office to CM: H.323
 - IP Office to IP Office: H323 - SCN Networking
- **Platform Requirements**
 - **IP Office**
 - **Release:** IP Office 9.0
 - **Edition:** Essential, Preferred, Advanced and Server Edition
 - **Communication Manager**
 - **Release:** CM 6.3
- **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.

9.2 IP Office & Session Manager Interop



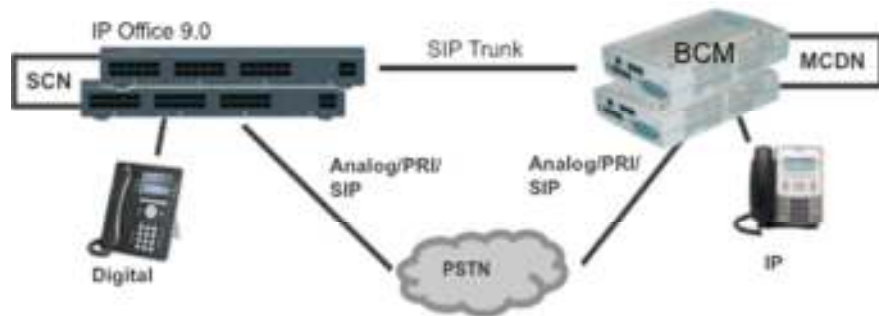
The SIP protocol is used for trunks between the IP Office nodes and the SM. The IP Offices are a network of SCNs and can use advanced SCN feature set between each other.

- **Protocol Support:**
 - IP Office to SM: SIP
 - IP Office to IP Office: H323 - SCN Networking
- **Platform Requirements**
 - **IP Office**

- **Release:** IP Office 9.0
- **Edition:** Essential, Preferred, Advanced and Server Edition
- **Session Manager**
 - **Release:** SM 6.3.4
- **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.

9.3 BCM and IP Office

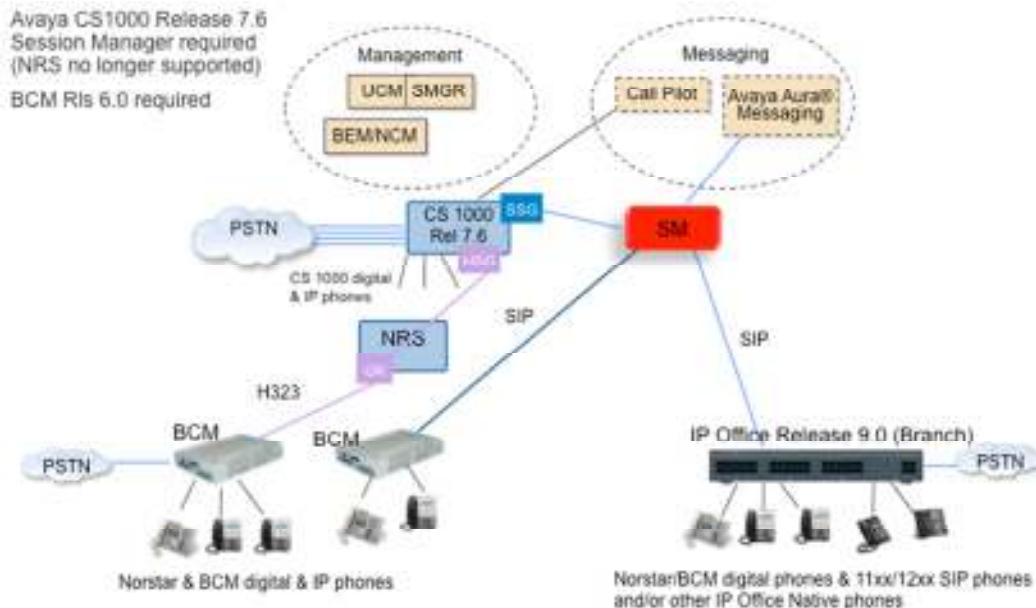
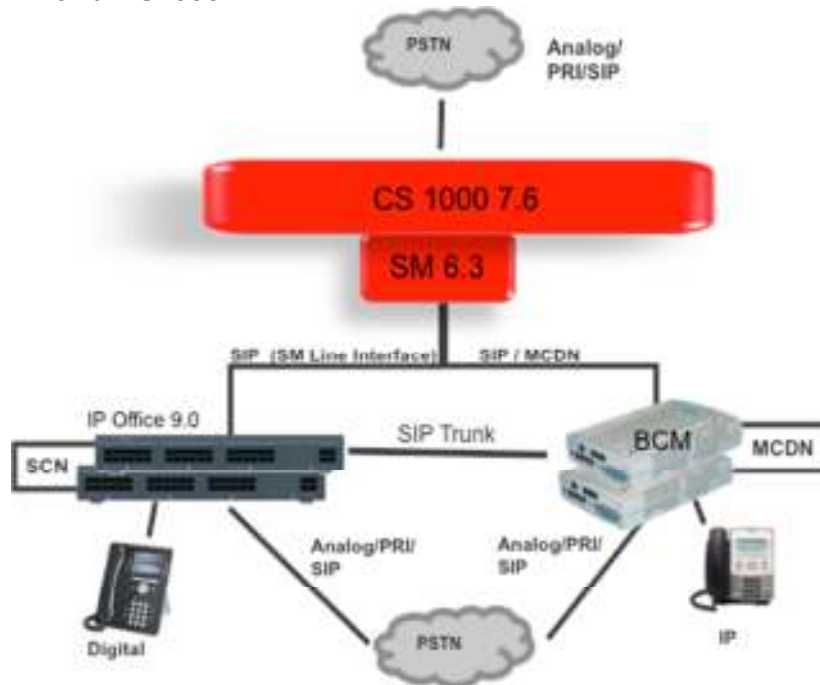


The SIP interoperability support between IP Office and BCM50/450 allows customers to migrate a network of BCM step by step to an IP Office SCN or Server Edition network.

- **Protocol Support:**
 - IP Office to BCM: SIP
 - BCM to BCM: SIP or SIP/MCDN
 - IP Office to IP Office : H323 – SCN or SIP
 - It is not possible to network IP Office and BCM via the MCDN or SCN protocol directly.
- **Platform Requirements**
 - **IP Office**
 - **Release:** IP Office 9.0
 - **Edition:** Essential, Preferred, Advanced and Server Edition
 - **BCM**
 - **Release:** BCM50 and BCM450 6.0
- **Centralized Voicemail:**
 - The IP Office system may use a centralized Voicemail PRO system in the SCN network
 - The BCM systems may use a centralized voicemail within the BCM MCDN network.
 - 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.

9.4 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:**
 - IP Office to BCM: SIP
 - IP Office to CS1000: SIP
 - IP Office to IP Office: SIP or H323 - SCN Networking

- BCM to BCM: SIP or SIP/MCDN
- BCM to CS1000: SIP or SIP/MCDN

Note: IP Office to CS1000 using H.323 or PRI trunks is not supported, and IP Office to CS1000 using NRS is no longer supported

- **Platform Requirements**

- **IP Office**
 - **Release:** IP Office 9.0
 - **Edition:** Essential, Preferred, Advanced and Server Edition
- **BCM**
 - **Release:** BCM50 and BCM450 6.0
- **CS1000**
 - **Release:** CS1000 7.6 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.

9.5 SIP Standard Call Feature Support

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

- **Standard Call Features**
 - Basic Call Completion
 - Handling of busy called party
 - DTMF and ring-back tone
 - Hold and Retrieve
 - Call Waiting presentation
 - Called Number display
 - Calling number and name display
 - Abandoned call
- **Call Redirection**
 - Call Forward (Forward ALL, Forward Busy, Forward No Answer)
 - Call Transfer (Attended and Unattended)
 - Call Redirection (To PSTN, Abandoned, Busy)
- **Conferencing**
 - 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.

9.6 Video Collaboration Solution for IP Office

The Radvision Scopia solution based on the XT5000/4200 platform and the Elite 6000 platform using Radvision Scopia 7.7 firmware is currently supported in IP Office release 8.1.

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 IPO. IPO 9.0 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 9.0. 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 9.0 includes the fixes from 8.1 SP5 and some additional features to support flare functionality when used with the Radvision Elite MCUs.

IP Office R9.0 will support:

- Video Collaboration Solution for IP Office
 - XT5000 Video Server for IP Office with 3.2 Firmware (must register with IPO for MCU to function)
 - XT5000 Endpoint w/embedded video server for IP Office with 3.2 Firmware (must register with IPO 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](#).

10 Demo Kits

10.1 Power Demo Kit

The IP Office Power Demo kit provides a fully licensed and functional IP Office system for use in demonstrations 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 R9.0 to include the V2 version of the ATM4/Combo card and reflect new license codes being introduced with R9.0. Only the license codes are changing, the Power Demo licenses included in the kit are unchanged from previous versions of the Power Demo. To upgrade an existing IP Office Power Demo system to R9.0, complete Appendix B of the IPO Power Demo Product Update to secure the upgrade license. The IPO Power Demo Product Update document can be found on the Avaya Sales Portal for SME under “Selling Tools”. Due to lag times with stocking and testing, the R9.0 IPO Power Kits demo kits will be available on October 23, 2013.

10.2 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 SE 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 IPO R9.0 release as well as the addition of 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 Sales Portal for SME under “Selling Tools”.

11 Logistics and Ordering

11.1 IP Office R9.0 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 9.0 of IP Office:

Material Code	SAP Description	IP Office Basic, Essential, Preferred & Advanced Editions	IP Office Server Edition	IP Office Applications Server (for Linux)	IP Office Applications Server (Windows)
700506051	IPO R9.0 USER/ADMIN SET DVD	✓	✗	✗	✗
700506052	IPO R9.0 SE INSTL DVD	✗	✓	✓	✗
700507516	IPO R9.0 VRTULZD SE DVD	✗	✓	✓	✗
700506050	IPO R9.0 APPL SRVR DVD	✗	✗	✗	✓

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.
- The SE Installation DVD includes both Server Edition and Applications Server Linux images. The software selection is done as part of the ignition process during installation.
- The Virtualized SE DVD includes both Server Edition and Applications Server Linux images. They are ready to be deployed on a VMware equipped server. For more details see the section on Virtualization.
- The Applications Server DVD is specifically for deploying on third party servers deployed with Microsoft operating system instead of a Linux operating system.

11.2 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 IP500v2 a R9.0 vs. a R8.1 system are the files on the SD card, which can be updated. Upon GA, although we update 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 can continue selling R8.1. 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.

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 R8.1 so the partner would always be prudent 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	IPO IP500v2 SYSTEM SD CARD A-LAW
700479710	IPO IP500v2 SYSTEM SD CARD MU-LAW
700479728	IPO IP500v2 SYSTEM SD CARD PARTNER
700500948	IPO IP500v2 SYSTEM SD CARD NORSTAR

11.3 IP Office Release License

To upgrade existing IP Office systems to IP Office Release 9.0 a release upgrade license is required. Upgrade licenses are sold separately. Ordering codes are summarized below.

Note: Customer systems covered by an IPOSS support contract are eligible to receive the R9.0 upgrade free of charge as part of their contract entitlement.

Material Code	SAP Description
275670	IPO R9 UPG SML ADI LIC
275669	IPO R9 UPG ADI LIC
302260	IPO R9 UPG SE ADI LIC

The following order codes specific to Russia are listed separately:

Material Code	SAP Description
271174	IPO R9 UPG RUSSIA ADI LIC

11.4 Software Upgrade Process

The process for upgrading the different IP Office platforms from previous releases to Release 9.0 is described in the Release 9.0 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 “9.0” under “Select a Release”

11.5 Software Pricing

New versions and releases of IP Office core and applications software are subject to two charges:

- A nominal 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

11.6 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.

12 Avaya Global Services

With the introduction of IP Office R8.1, Avaya launched a new service offering. Avaya IP Office Support Services (IPOSS) provides service options designed to maintain and support customers' IP Office. IP Office R9.0 will continue to be supported via IP Office Support Services, including the additional of certain branch scenarios as well the new virtualized product offering.

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 at the following URL [IPOSS offer](#)

12.1 IP Office Software Availability

Avaya recognizes that Software Assets are intellectual property that provides value to customers and Authorized Channel Partners.

Avaya started the process of transitioning access to IP Office software (major and minor releases, feature packs, service packs) to PLDS in May 2013. Coincident with the launch of IP Office R9.0, all software for supported releases will only be posted on PLDS

Note: IP Office licensing for SME continues to be delivered through the ADI licensing system

Access to IP Office software on PLDS

- A valid SSO log-in with access rights to PLDS is required. If you do not have an SSO log-in please proceed to <https://sso.avaya.com> to apply.
- To verify or request PLDS access for an existing SSO log-in, follow the instructions below:
 - **Avaya Partners and Distributors:**
 - 1) **Go to:** <https://support.avaya.com>
 - 2) **Login** using your SSO email address and password
 - 3) **Select** “Profile”
 - 4) **Select** “View/Request Roles”
 - 5) Under View Details, select desired role for the applications. In this case, check the PLDS box (if you do not currently have access)
 - 6) Click **Save**
- Note: Updates to the data base to reflect changes in role access may take up to 24 – 48 hours
- Access to major Software Updates, minor Software Updates, Service Packs and Firmware Updates posted on PLDS will still be available by accessing the Avaya self-help web site (support@avaya.com) similar to R8.1 software.

Where can I find more information?

- For more information visit Avaya support under “Help and Policies / Support Help / Product Licensing and Delivery System (Avaya PLDS)”
- **For more information on the software posting transition, please refer to the IP Office Technical Tip #253 located at the URL below:**
<https://downloads.avaya.com/css/P8/documents/100171806>

12.2 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

12.3 Additional Avaya IP Office Support Services Information

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 at the following URL
<http://portal.avaya.com/ptlWeb/gs/services/SV0578>

13 IP Office Credentials and Avaya University Training

Avaya Credentials (previously Product Authorizations) are designed to ensure our Avaya Channel Partners have the capabilities and skills to successfully sell, and implement and support Avaya IP Office products/solutions to exceed customer expectations.

The SMEC IP Office Credentials include:

- Avaya Certified Sales Specialist (APSS)
- Avaya Implementation Professional Specialist (AIPS)
- Avaya Certified Support Specialist (ACSS)

The requirements for these may be found at:
<http://www.avaya-learning.com>

Technical – AIPS / ACSS Credential

Avaya Learning’s Virtual Campus available with IP Office R9.0

- Avaya Learning's Virtual Campus includes all IP Office learning components for Implementation and Support including Self Directed Content (SDC), Ask the Mentor (AtM) sessions, and Practice Lab Workshops (PLW).

Enrollment is via the SMB Collaborative Learning licenses listed below:

- **10S00005E SMB Implementation ONLY Collaborative Learning Licenses**
AIPS - Avaya IP Office (AIPS - 4000) Curriculum
- **5S00004E SMB Support ONLY Collaborative Learning Licenses**
ACSS - SME Communications (ACSS - 3000) Curriculum
- **0S00010E SMB Implementation and Support Collaborative Learning Licenses**
AIPS – Avaya IP Office (AIPS - 4000) Curriculum **plus**
ACSS - SME Communications (ACSS - 3000) Curriculum

Registered students receive 12 months unlimited access. For additional details and to enroll please visit the Avaya Learning Center at www.avaya-learning.com.

Including in all learning licenses above there is a separate area which is called IP Office Supplemental Knowledge. This floor in virtual campus contains self-directed learning objects which will cover the release 9.0 delta information. These can be consumed by technicians who are well experienced in IP Office and only need this delta information to be up to date.

Credential assessment and exam will be updated for release 9.0.

Sales – APSS Credential

Take the APSS Selling IP Office class:

Course Code	Description	Duration hours	Modality
2S00010O	Selling IP Office Overview	1	Web On-demand
2S00011O	Selling IP Office Learning Bytes (1-9)	1	Web On-demand

Then:

2S00010A	Selling IP Office – Assessment	1	Assessment
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14 List of New and Updated IP Office R9.0 Material Codes

All pricing of IP Office Release 9.0 material codes will be sent to distribution partners through the normal Price List Administration Tool (PLAT) procedure.

Note that all IP Office license material codes are being updated to R9.0 versions to allow for better tracking of software license deployment by both Avaya and our Business Partners. Updated license descriptions make it easier to select the correct software when provisioning new systems.

Also note that R9.0 introduces a new set of Product Licensing and Delivery System (PLDS) codes for IP Office deployed in the Branch, aligned with the traditional Avaya PLDS Enterprise license model. A complete list of the current R8.1 (and earlier) license codes, new IPO R9.0 ADI license codes and IPO R9.0 PLDS license codes are included in Appendix B.

While PLDS codes are available to support IP Office deployed as a branch, IP Office R9.0 will continue to support the ADI (traditional SME license model) and as a hybrid solution where both ADI and PLDS licenses can exist on a single system. Not all licenses have both ADI and PLDS variants – only where applicable to both models.

IP Office Release 8.1 will remain available for sale, with existing codes and pricing, until the next major IP Office software release, currently planned for the second half of calendar 2014. Release 8.1 codes and pricing will remain available in Avaya commercial tools as long as the release is available for sale.

Below is the list of net-new material codes specific to IP Office R9.0.

Material code	Description	Applicable to Basic Edition, PARTNER® / Norstar™ Modes	Applicable Essential Edition, Preferred Edition & Advanced Edition	Applicable to Server Edition	Virtualized IP Office
700506051	IPO R9.0USER/ADMIN SET DVD	✓	✓	X	X
700506052	IPO R9.0 SE INSTL DVD	X	X	✓	X
700506050	IPO R9.0 APPL SRVR DVD	✓	✓	X	X
700506053	IPO R9 ANYWHERE DEMO DVD	X	✓	✓	X
700507516	IPO R9.0 VRTULZD SE INSTL DVD	X	X	X	✓
275694	IPO R9 VRTULZD SE ADI LIC	X	X	X	✓
275696	IPO R9.0 VRTULZD SE RUSSIA ADI LIC	X	X	X	✓
700501585	IP500 Digital Station 16B RJ45	✓	✓	✓	X
700501586	IP500 Digital Station 30B RJ45	✓	✓	✓	X
302786	R210 II XL SRVR IPO UC	X	✓	X	X
302788	R210 II XL SRVR IPO SE EXP	X	X	✓	X
302787	R210 II XL SRVR IPO France Telecom	X	X	✓	X
275670	IPO R9 UPG SML ADI LIC	✓	✓	X	X
275669	IPO R9 UPG ADI LIC	✓	✓	X	X

302260	IPO R9 UPG SE ADI LIC	X	X	✓	X
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14.1 New or changed configuration rules

Material code	Description	Pre-requisite material code	Comments
700501585/ 700501586	Digital Station Module 16B/30B	N/A	The digital station module may be configured for Avaya digital phones (DS) or heritage Nortel phones (BST). DS and BST model phones may not be mixed on the same digital station module. Digital Station modules supporting either DS or BST phones may be mixed on an IP500 V2 control unit. The control unit will support any combination of Digital Station modules: DS16/30, DS16/30A versions and DS16/30B versions. DS16/30B versions will support DS phones on prior support release R8.0, R8.1FP1 and R9.0+. The modules will support BST phones with R8.1FP1, R9.0 and subsequent releases only.
N/A	Server Edition Licensing change	N/A	The duplicate set of VM Pro port licenses are no longer required to be provisioned on the secondary server. The VM Pro ports on the Primary server will be valid on the secondary during a failover event. The grace period of 15 days for all the other licenses is applicable for the VM Pro port licenses as well.

15 GRIP requests delivered in IP Office Release 9.0

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 R9.0 program. **A total of 109 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
311	Emergency Call Notification to Alerting Station	Implemented	
895	E911 location resolution	Implemented	
1001	H.323 and SIP Gateway for Remote 911 Requirements for IP Endpoint Registration	Implemented	
1370	Upload of professional greetings/announcement for users and hunt groups	Implemented	
2113	Comfortable export/import functionality of personal directory entries	Implemented	
2460	Email and Station notification of all 911 calls.	Implemented	
2887	Allow for DNS Names to be provided in System Tab Settings	Implemented	
3067	Embedded Voicemail for AA, but voicemail from Modular	Implemented	
3203	Increase maximum recording time beyond 1 hour	Implemented	
3393	Park Calls across a Small Community Network	Implemented	
3553	IP Office Branch Edition EVM Ports increase	Implemented	IP Office R9.0 and support for UCM/VM-Pro will meet market needs.
3650	Different ringtones	Partially Implemented	
3804	Distinctive Ring Tones based on DDI & Hunt group	Implemented	

GRIP #	GRIP Request Title	Final GA Status	Additional Comments
3809	Being able to use a Wav file as announcement with Essential Edition.	Implemented	Allows customers to to play professional announcements when external callers are queuing.
4189	Being able to exclude hunt groups from IPO internal directory	Implemented	
4219	IPO Partner Edition	Implemented	
4432	User BLF on 14xx /16xx through Features/Self Administer menu	Implemented	
4668	Ability to program ringing and line assignment on analog ports of DS module for IPO PARTNER VERSION	Implemented	
4998	Park and Page feature (similar to BCM)	Implemented	
5116	Excluding Hunt Groups from Directory	Implemented	
5169	Differentiated ring tones for internal/external/overflowed calls	Implemented	
5170	Ability to resolve STUN server by DNS	Implemented	
5250	Implement Call Admission Control with IP Office on Linux	Implemented	
5260	IP Office Essential Edition Partner Version	Partially Implemented	
5626	Ringback Ringtone Indicator	Implemented	
5573	Phone button To VM should be possible to Disable	Implemented	
5676	Voicemail to email via SMTP enhancement for IPO & VM Pro	Implemented	Voicemail to email configuration allows SMTP address to be specified as FQDN (Fully Qualified Domain Name)
5677	Voicemail Pro SMTP security enhancements	Implemented	Voicemail Pro enhanced to support SMTP over TLS to enable voicemail-to-email feature for hosted email solutions.
5745	Ring patterns on 1600 and 1400 phones	Implemented	
6108	Pick-up Parked call in SCN	Implemented	
6141	24 Hr Clock	Implemented	
6207	One-X Portal enhancement - User-typed presence	Implemented	Soft Console client (for Receptionists) will display the custom presence status of one-X Portal users.
6288	Outlook Plug-in / CTI functions with Chat	Implemented	
6330	Centrex Transfer from Embedded Voicemail	Partially Implemented	

GRIP #	GRIP Request Title	Final GA Status	Additional Comments
6701	Ability to import/export user's Personal directory in CSV	Implemented	
6764	Enable all apps for desktop virtualization	Partially Implemented	one-X Portal thin client as well as Outlook plugin will be supported in Terminal Services Environments such as Citrix (XenDesktop, XenApp) and Microsoft Terminal Services
6790	Ability for end user to change OneX Portal Password	Implemented	one-X Portal thin client provides ability for a one-X Portal user to change their one-X Portal password
6818	Add call transfer, enable/disable twinning & pick up twinned call in one-X Mobile Preferred client	Implemented	one-X mobile preferred client for Android and iOS supports call transfer, enable/disable mobile twinning as well as centralized call-logs
6891	Simplified paging on IP Office	Implemented	
6895	EVM announcement HG and User	Implemented	
7074	CCR wallboard and supervisor monitor color change control for user states	Implemented	
7129	Allow to exclude hunt groups from directory (ex-directory)	Partially Implemented	
7188	Caller id number not visible until call is answered on Nortel phones	Implemented	
7195	BT RACE (remote access)	Implemented	
7228	Perform testing to support the Linux Application server running on VMware	Partially Implemented	
7230	B5800 - Enhancement for Russian market	Implemented	
7326	Hunt Groups Ex Directory	Partially Implemented	
7391	SSL or TLS Encryption support for VM to Email	Implemented	Voicemail Pro enhanced to support SMTP over TLS to enable voicemail-to-email feature for hosted email solutions.
7513	One-X IM Window enhancements	Implemented	one-X Portal thin client interface will show a desktop notification for an incoming Instant Message
7535	Turn off Voicemail Mailbox for an individual	Implemented	

GRIP #	GRIP Request Title	Final GA Status	Additional Comments
	user		
7719	Support for One-X Comm with B5800 in Distributed mode	Implemented	Support for IP Office soft clients (e.g. Flare Experience) meets GRIP requirement
7863	OneX Portal/Outlook Add In set up dial prefixes	Implemented	Outlook Plugin as well as one-X Mobile Preferred mobility client provides a Dial Plan configuration
7912	Ability to make changes to multiple stores via template	Partially Implemented	EVM greeting files can be sent to one or many branches within a single command. Day #2 system template changes supported to one or many branches. Push to a single or many branches can be scheduled on a calendar/time of day basis.
7932	Enhanced SNMP support SIP trunks	Implemented	
7934	B5800 Auto Attendant enhancement	Implemented	Supported by VM Pro on Branch
7963	Change password	Implemented	one-X Portal thin client provides ability for a one-X Portal user to change their one-X Portal password
7981	Allow DNS hostname for SMTP server	Implemented	
8014	IP Office 90 days Entitlement	Implemented	In service date created for software
8064	R2 Trunks for Mobility on IP Office	Implemented	
8075	System Event Alarm for SIP Trunk registration failure	Implemented	
8103	IP Office localization Poland	Implemented	
8142	System to limit number of call over a SIP Trunk for a specific site.	Implemented	
8195	IPO Mobility transfer	Implemented	one-X mobile preferred client for Android and iOS supports call transfer, enable/disable mobile twinning as well as centralized call-logs
8216	Pickup call between analog and SIP phone	Implemented	Centralized SIP users + ATA feature
8379	B5800 - Connection Preservation	Implemented	

GRIP #	GRIP Request Title	Final GA Status	Additional Comments
8381	B5800 Manual (Scheduled) Fallback	Implemented	Manual Fallback
8450	B5800 Call Recording	Implemented	Supported by VM Pro/UCM on Branch
8532	Call Park across SCN and increase in number of Soft Consoles per IPO	Partially Implemented	
8571	Centralized call log on one-X mobile preferred clients	Implemented	one-X mobile preferred client for Android and iOS supports call transfer, enable/disable mobile twinning as well as centralized call-logs
8578	Equal feature set for mobile preferred on iOS and Android	Partially Implemented	
8581	Support for IM on Outlook Integrator	Implemented	Outlook Plugin provides Instant Messaging functionality
8612	IPO Microsoft Office Plug in IM Chat	Implemented	Outlook Plugin provides Instant Messaging functionality
8624	FQDN STUN address	Implemented	
8626	FQDN FOR SMTP SETTING	Implemented	
8734	Display of 90 day Hardware Timer	Implemented	In service date created for software
8770	Centralized Management of Auto Attendant	Partially Implemented	AA call flows supported by VM Pro/UCM on Branch. Partial as no SMGR mgt of call flows for the UCM/ VM Pro
8772	Centralized Management of B5800 - push to changes to multiple locations	Partially Implemented	Partial as only day #2 changes to system templates supported. Day #2 changes to User templates not supported and no SMGR for VM Pro call flows.
8773	Centralized Management of B5800 - Ability to schedule changes	Partially Implemented	Scheduled push available to one/many branches. But only day #2 changes to system templates supported. Day #2 changes to user templates not supported and no SMGR for VM Pro call flows.
8774	Centralized Management - change in the way Templates function in SMGR	Partially Implemented	Only day #2 changes to system templates supported.

GRIP #	GRIP Request Title	Final GA Status	Additional Comments
8775	Auto Attendant use of leading digit of extension	Implemented	VM Pro supports the requested feature and support for VM Pro in branch will meet GRIP reqs.
8804	Export/import personal directory	Implemented	
8824	9601 support in centralized and distributed modes for B5800	Partially Implemented	Only support for 9601 SIP centralized.
8885	Voicemail to Email using FQDN instead on IP Address of SMTP Server/Gateway	Implemented	Voicemail Pro enhanced to support SMTP over TLS to enable voicemail-to-email feature for hosted email solutions.
8895	IP Office Basic Mode to ring PHONE ports.	Implemented	
9086	One X Portal for IP Office IM popup	Implemented	Outlook Plugin provides Instant Messaging functionality
9055	BT Race Auto Configuration	Implemented	
9126	B5800 Support for Centralized Aura(R) SIP clients	Implemented	
9187	Automatic Park and page of Holding Call	Implemented	
9255	SIP incoming call rejected by IPO	Implemented	
9277	IM on outlook plug in	Implemented	Outlook Plugin provides Instant Messaging functionality
9305	Eire Country Locale request	Implemented	
9313	Provide Ring TONE sound differences for OUTSIDE vs Intercom calls on all 1400 phones	Implemented	
9384	IM logging in IPO UC applications	Implemented	one-X Portal supports Instant Messaging archival
9492	SIP responses Mapping to ISUP (ITU-Q.850) cause codes RFC3398	Implemented	
9584	Restrict Pickup Feature	Implemented	
9667	User changeable OneX Portal password	Implemented	one-X Portal thin client provides ability for a one-X Portal user to change their one-X Portal password
9683	User changeable One X Portal password	Implemented	one-X Portal thin client provides ability for a one-X Portal user to change their one-X Portal password

GRIP #	GRIP Request Title	Final GA Status	Additional Comments
9707	IP Office Users Cannot set their own application Passwords	Implemented	
9760	Exclude from Directory option for Hunt Groups	Implemented	
9769	Request for Basic wifi SIP Telephony iOS client	Implemented	one-X Mobile Preferred client for Android and iOS will support VoIP functionality
9920	Server Edition support for streaming audio for music on hold	Implemented	
9963	Music on Hold Server Edition	Implemented	
9968	Enhancement for Russian market	Implemented	
9981	Voice Mail Key - Impossible to Delete or Simply Hide - B5800 - (Santander)	Implemented	
10006	Please allow MOH to be pulled from the audio port on the Gateways.	Implemented	including the ability to connect a USB audio jack on the Primary Server.
10259	Improve Scalability for IP Office	Implemented	
10499	User Directory List Export	Implemented	
10520	Ex directory for groups	Implemented	
10833	Server Edition Idle Time Out during Upgrades	Implemented	Includes the ability to turn off idle session timer and will be state aware (recalling status even when logging out and logging in).

16 Acronyms

ADI	Avaya Direct International
ASBCE	Avaya Session Border Controller for Enterprise
ASD	Avaya Solution Designer
FQDN	Fully Qualified Domain Name
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

17 Appendix A ATMV2 and Combo Card ATM V2 Type Approvals

The following is a list of all countries with type approval for the ATM V2 and Combo Card ATM V2.

Argentina	Estonia	Lithuania	Romania
Australia	Finland	Luxembourg	Russia
Austria	France	Malaysia	Saudi Arabia
Bahrain	Greece	Malta	Singapore
Belgium	Guatemala	Mexico	Slovak Republic
Bolivia	Honduras	Morocco	Slovenia
Brazil*	Hong Kong	Netherlands	South Africa
Bulgaria	Hungary	New Zealand	Spain
Canada	Iceland	Nicaragua	Sri Lanka
Chile	India (non-gov)	Norway	Sweden
China, People's Republic of	India Centralized (B5800)	Oman	Switzerland
Columbia	Indonesia	Pakistan	Taiwan
Costa Rica	Ireland	Panama	Thailand
Cyprus	Israel	Paraguay	Turkey
Czech Republic	Italy	Peru	United Kingdom
Denmark	Jamaica	Philippines	United Arab Emirates
Dominican Republic	Korea, Rep. of	Poland	United States
Ecuador	Kuwait	Portugal	Uruguay
Egypt	Latvia	Puerto Rico	Venezuela
El Salvador	Liechtenstein	Qatar	Vietnam

*TA approval planned for November 2013

18 Appendix B New IPO R9.0 License Material Codes

Below is a mapping of the pre-R9.0 IP Office license order codes and the new IPO R9.0 license order codes for ADI and PLDS.

Pre R9		R9 ADI		R9 PLDS	
Material	SAP Material Description	Material	SAP Material Description	Material	SAP Material Description
171987	IPO LIC RECEPTIONIST RFA 1 LIC:CU	275657	IPO R9 RECEPTIONIST 1 ADI LIC	273939	IPO R9 RECEPTIONIST 1 PLDS LIC
171988	IPO LIC CTI RFA LIC:DS	275624	IPO R9 CTI ADI LIC	273906	IPO R9 CTI PLDS LIC
174459	IPO LIC VM PRO RFA 2 LIC:CU	275671	IPO R9 VM PRO 2 ADI LIC	273953	IPO R9 VM PRO 2 PLDS LIC
174460	IPO LIC VM PRO RFA 4 LIC:CU	275672	IPO R9 VM PRO 4 ADI LIC	273954	IPO R9 VM PRO 4 PLDS LIC
174461	IPO LIC VM PRO RFA 8 LIC:CU	275673	IPO R9 VM PRO 8 ADI LIC	273955	IPO R9 VM PRO 8 PLDS LIC
174462	IPO LIC VM PRO RFA 16 LIC:CU	275674	IPO R9 VM PRO 16 ADI LIC	273956	IPO R9 VM PRO 16 PLDS LIC
174956	IPO LIC 3RD PARTY IP ENDPOINT 1	275611	IPO R9 3RD PARTY IP ENDPT 1 ADI LIC	273783	IPO R9 3RD PARTY IP ENDPT 1 PLDS LIC
174957	IPO LIC 3RD PARTY IP ENDPOINT 5	275612	IPO R9 3RD PARTY IP ENDPT 5 ADI LIC	273784	IPO R9 3RD PARTY IP ENDPT 5 PLDS LIC
174958	IPO LIC 3RD PARTY IP ENDPOINT 10	275613	IPO R9 3RD PARTY IP ENDPT 10 ADI LIC	273785	IPO R9 3RD PARTY IP ENDPT10 PLDS LIC
174959	IPO LIC 3RD PARTY IP ENDPOINT 20	275614	IPO R9 3RD PARTY IP ENDPT 20 ADI LIC	273786	IPO R9 3RD PARTY IP ENDPT20 PLDS LIC
174960	IPO LIC 3RD PARTY IP ENDPOINT 50	275615	IPO R9 3RD PARTY IP ENDPT 50 ADI LIC	273787	IPO R9 3RD PARTY IP ENDPT50 PLDS LIC
177466	IPO LIC TAPI WAV RFA 4 LIC:CU	275664	IPO R9 TAPI WAV RFA 4 ADI LIC	273946	IPO R9 TAPI WAV RFA 4 PLDS LIC
182299	IPO LIC AVAYA TTS RFA 1 LIC:CU	275621	IPO R9 AVAYA TTS 1 ADI LIC	N/A	-
182301	IPO LIC IPSEC VPN RFA LIC:DS	275643	IPO R9 IPSEC VPN ADI LIC	273925	IPO R9 IPSEC VPN PLDS LIC
182303	IPO LIC 3RD PARTY TTS RFA LIC:CU	275616	IPO R9 3RD PARTY TTS ADI LIC	N/A	-
187166	IPO LIC CONTACTSTORE RFA LIC:DS	275623	IPO R9 CONTACTSTORE ADI LIC	273905	IPO R9 CONTACTSTORE PLDS LIC
189778	IPO TRIAL AVAYA TTS RFA 1 LIC:CU	275680	IPO R9 AV TTS 1 TRIAL ADI LIC	N/A	-
189781	IPO TRIAL 3RD PRTY TTS RFA LIC:CU	275677	IPO R9 3RD PARTY TTS TRIAL ADI LIC	N/A	-
189782	IPO LIC PREFERRED (VM PRO) RFA TRIAL	275652	IPO R9 PREFRD VM PRO TRIAL ADI LIC	273934	IPO R9 PREFRD VM PRO TRIAL PLDS LIC
189783	IPO LIC RECEPTIONIST RFA 1 TRIAL	275689	IPO R9 RECEPTIONIST 1 TRIAL ADI LIC	273971	IPO R9 RECEPTIONIST1 TRIAL PLDS LIC
189806	IPO TRIAL IPsec VPN RFA LIC:DS	275685	IPO R9 IPSEC VPN TRIAL ADI LIC	273967	IPO R9 IPSEC VPN TRIAL PLDS LIC
202967	IPO LIC SIP TRNK RFA 1	275659	IPO R9 SIP TRNK 1 ADI LIC	273941	IPO R9 SIP TRNK 1 PLDS LIC
202968	IPO LIC SIP TRNK RFA 5	275660	IPO R9 SIP TRNK 5 ADI LIC	273942	IPO R9 SIP TRNK 5 PLDS LIC
202969	IPO LIC SIP TRNK RFA 10	275661	IPO R9 SIP TRNK 10 ADI LIC	273943	IPO R9 SIP TRNK 10 PLDS LIC
202970	IPO LIC SIP TRNK RFA 20	275662	IPO R9 SIP TRNK 20 ADI LIC	273944	IPO R9 SIP TRNK 20 PLDS LIC
205650	IPO LIC IP500 VCE NTWKG ADD 4 LIC:CU	275642	IPO R9 IP500 VCE NTWK 4 ADI LIC	273924	IPO R9 IP500 VCE NTWK 4 PLDS LIC
205820	IPO LIC SIP TRUNKING TRIAL RFA 1	275690	IPO R9 SIP TRUNKING 1 TRIAL ADI LIC	273972	IPO R9 SIP TRUNKING 1 TRIAL PLDS LIC
205823	IPO LIC IP500 VCE NTWK START 4 TRIAL	275675	IPO R9 IP500 VCE NTWK 4TRIAL ADI LIC	273957	IPO R9 IP500 VCENTWK4 TRIAL PLDS LIC
215180	IPO LIC IP500 T1 ADD 2CH	275639	IPO R9 IP500 T1 ADD 2CH ADI LIC	273921	IPO R9 IP500 T1 ADD 2CH PLDS LIC
215181	IPO LIC IP500 T1 ADD 8CH	275641	IPO R9 IP500 T1 ADD 8CH ADI LIC	273923	IPO R9 IP500 T1 ADD 8CH PLDS LIC
215182	IPO LIC IP500 T1 ADD 32CH	275640	IPO R9 IP500 T1 ADD 32CH ADI LIC	273922	IPO R9 IP500 T1 ADD 32CH PLDS LIC
215183	IPO LIC IP500 E1 ADD 2CH	275634	IPO R9 IP500 E1 ADD 2CH ADI LIC	273916	IPO R9 IP500 E1 ADD 2CH PLDS LIC

215184	IPO LIC IP500 E1 ADD 8CH	275635	IPO R9 IP500 E1 ADD 8CH ADI LIC	273917	IPO R9 IP500 E1 ADD 8CH PLDS LIC
215185	IPO LIC IP500 E1 ADD 22CH	275633	IPO R9 IP500 E1 ADD 22CH ADI LIC	273915	IPO R9 IP500 E1 ADD 22CH PLDS LIC
215186	IPO LIC IP500 E1R2 ADD 2CH	275637	IPO R9 IP500 E1R2 ADD 2CH ADI LIC	273919	IPO R9 IP500 E1R2 ADD 2CH PLDS LIC
215187	IPO LIC IP500 E1R2 ADD 8CH	275638	IPO R9 IP500 E1R2 ADD 8CH ADI LIC	273920	IPO R9 IP500 E1R2 ADD 8CH PLDS LIC
215188	IPO LIC IP500 E1R2 ADD 22CH	275636	IPO R9 IP500 E1R2 ADD 22CH ADI LIC	273918	IPO R9 IP500 E1R2 ADD 22CH PLDS LIC
217650	IPO LIC CUSTMR SVC AGT RFA 1 LIC:CU	275625	IPO R9 CUSTMR SVC AGT 1 ADI LIC	273907	IPO R9 CUSTMR SVC AGT 1 PLDS LIC
217651	IPO LIC CUSTMR SVC AGT RFA 5 LIC:CU	275626	IPO R9 CUSTMR SVC AGT 5 ADI LIC	273908	IPO R9 CUSTMR SVC AGT 5 PLDS LIC
217653	IPO LIC CUSTMR SVC AGT RFA 20 LIC:CU	275627	IPO R9 CUSTMR SVC AGT 20 ADI LIC	273909	IPO R9 CUSTMR SVC AGT 20 PLDS LIC
229442	IPO LIC R6+ CUSTMR SVC SPV 1	275628	IPO R9 CUSTMR SVC SPV 1 ADI LIC	273910	IPO R9 CUSTMR SVC SPV 1 PLDS LIC
227040	IPO LIC 3RD PARTY IP ENDPOINT 5 TRIAL	275676	IPO R9 3RD PARTY IP ENDPT 5 TRIAL	273958	IPO R9 3RD PARTY IP ENDPT 5 TRIAL
227053	IPO LIC CUSTMR SVC AGT RFA 5 TRIAL	275682	IPO R9 CUSTMR SVC AGT 5 TRIAL ADI LIC	273964	IPO R9 CUSTMR SVC AGT5 TRIALPLDS LIC
229423	IPO LIC R6+ ESSNTL EDITION ADD 2CH	275632	IPO R9 ESSNTL ED ADD 2CH ADI LIC	273914	IPO R9 ESSNTL ED ADD 2CH PLDS LIC
229424	IPO LIC R6+ ADV EDITION	275617	IPO R9 ADV ED ADI LIC	273789	IPO R9 ADV ED PLDS LIC
229425	IPO LIC R6+ ADV EDITION TRIAL	275678	IPO R9 ADV ED TRIAL ADI LIC	273960	IPO R9 ADV ED TRIAL PLDS LIC
229426	IPO LIC R6+ PWR USER 1	275654	IPO R9 PWR USER 1 ADI LIC	273936	IPO R9 PWR USER 1 PLDS LIC
229427	IPO LIC R6+ PWR USER 5	275655	IPO R9 PWR USER 5 ADI LIC	273937	IPO R9 PWR USER 5 PLDS LIC
229428	IPO LIC R6+ PWR USER 20	275656	IPO R9 PWR USER 20 ADI LIC	273938	IPO R9 PWR USER 20 PLDS LIC
229429	IPO LIC R6+ PWR USER 5 TRIAL	275688	IPO R9 PWR USER 5 TRIAL ADI LIC	273970	IPO R9 PWR USER 5 TRIAL PLDS LIC
229430	IPO LIC R6+ TELEWORKER 1	275665	IPO R9 TELEWORKER 1 ADI LIC	273947	IPO R9 TELEWORKER 1 PLDS LIC
229431	IPO LIC R6+ TELEWORKER 5	275666	IPO R9 TELEWORKER 5 ADI LIC	273948	IPO R9 TELEWORKER 5 PLDS LIC
229432	IPO LIC R6+ TELEWORKER 20	275667	IPO R9 TELEWORKER 20 ADI LIC	273949	IPO R9 TELEWORKER 20 PLDS LIC
229433	IPO LIC R6+ TELEWORKER 5 TRIAL	275691	IPO R9 TELEWORKER 5 TRIAL ADI LIC	273973	IPO R9 TELEWORKER 5 TRIAL PLDS LIC
229434	IPO LIC R6+ MOBILE WORKER 1	275645	IPO R9 MOBILE WORKER 1 ADI LIC	273927	IPO R9 MOBILE WORKER 1 PLDS LIC
229435	IPO LIC R6+ MOBILE WORKER 5	275646	IPO R9 MOBILE WORKER 5 ADI LIC	273928	IPO R9 MOBILE WORKER 5 PLDS LIC
229436	IPO LIC R6+ MOBILE WORKER 20	275647	IPO R9 MOBILE WORKER 20 ADI LIC	273929	IPO R9 MOBILE WORKER 20 PLDS LIC
229437	IPO LIC R6+ MOBILE WORKER 5 TRIAL	275686	IPO R9 MOBILE WORKER 5 TRIAL ADI LIC	273968	IPO R9 MBL WORKER 5 TRIAL PLDS LIC
229438	IPO LIC R6+ OFF WORKER 1	275648	IPO R9 OFF WORKER 1 ADI LIC	273930	IPO R9 OFF WORKER 1 PLDS LIC
229439	IPO LIC R6+ OFF WORKER 5	275649	IPO R9 OFF WORKER 5 ADI LIC	273931	IPO R9 OFF WORKER 5 PLDS LIC
229440	IPO LIC R6+ OFF WORKER 20	275650	IPO R9 OFF WORKER 20 ADI LIC	273932	IPO R9 OFF WORKER 20 PLDS LIC
229441	IPO LIC R6+ OFF WORKER 5 TRIAL	275687	IPO R9 OFF WORKER 5 TRIAL ADI LIC	273969	IPO R9 OFF WORKER 5 TRIAL PLDS LIC
229443	IPO LIC R6+ CUSTMR SVC SPV 1 TRIAL	275683	IPO R9 CUSTMR SVC SPV 1 TRIAL ADI LIC	273965	IPO R9 CUSTMR SVC SPV1 TRIALPLDS LIC
229444	IPO LIC R6+ AV IP ENDPOINT 1	275618	IPO R9 AV IP ENDPT 1 ADI LIC	273900	IPO R9 AV IP ENDPT 1 PLDS LIC
229445	IPO LIC R6+ AV IP ENDPOINT 5	275619	IPO R9 AV IP ENDPT 5 ADI LIC	273901	IPO R9 AV IP ENDPT 5 PLDS LIC
229447	IPO LIC R6+ AV IP ENDPOINT 20	275620	IPO R9 AV IP ENDPT 20 ADI LIC	273902	IPO R9 AV IP ENDPT 20 PLDS LIC
229449	IPO LIC R6+ AV IP ENDPOINT 5 TRIAL	275679	IPO R9 AV IP ENDPT 5 TRIAL ADI LIC	273961	IPO R9 AV IP ENDPT 5 TRIAL PLDS LIC
263128	IPO LIC CTI RFA TRIAL	275681	IPO R9 CTI TRIAL ADI LIC	273963	IPO R9 CTI TRIAL PLDS LIC

267786	IPO R8+ ESSNTL EDITION+ LIC	275631	IPO R9 ESSNTL ED ADI LIC	273913	IPO R9 ESSNTL ED PLDS LIC
268842	IPO R8+ ESSNTL EDITION+ TRIAL LIC	275684	IPO R9 ESNTL ED TRIAL ADI LIC	273966	IPO R9 ESNTL ED TRIAL PLDS LIC
268843	IPO R8+ BT RACE LIC	275622	IPO R9 BT RACE ADI LIC	273904	IPO R9 BT RACE PLDS LIC
268844	IPO R8+ TTS PRO RFA 1 LIC	275668	IPO R9 TTS PRO 1 ADI LIC	273950	IPO R9 TTS PRO 1 PLDS LIC
268845	IPO R8+ TTS PRO RFA 1 TRIAL LIC	275692	IPO R9 TTS PRO 1 TRIAL ADI LIC	273974	IPO R9 TTS PRO 1 TRIAL PLDS LIC
269480	IPO LIC PREFRD R8+ VM PRO RFA LIC:DS	275653	IPO R9 PREFRD VM PRO ADI LIC	273935	IPO R9 PREFRD VM PRO PLDS LIC
270398	IPO R8.1+ SOFTPHONE RFA LIC	275663	IPO R9 SOFTPHONE ADI LIC	273945	IPO R9 SOFTPHONE PLDS LIC
267802	IPO R8+ MOBILE TO PWR USER UPG 5	275644	IPO R9 MBL TO PWR USER UPG 5 ADI LIC	N/A	-
267803	IPO R8+ OFF WORKER TO PWR USER UPG5	275651	IPO R9 OFF WORKER TO PWR USER UPG 5	N/A	-
270397	IPO R8.1+ SE LIC	275658	IPO R9 SE ADI LIC	N/A	-
182297	IPO LIC NTWKD MSGING RFA LIC:DS	273951	IPO R9 NTWKD MSGING ADI LIC	N/A	
177467	IPO LIC ACM CENTRAL VM LIC:DS	273952	IPO R9 ACM CENTRAL VM ADI LIC	N/A	
270399	IPO UPG R8.1+ LIC	275669	IPO R9 UPG ADI LIC	N/A	-
270680	IPO LIC UPG R8.1 SML	275670	IPO R9 UPG SML ADI LIC	N/A	-
N/A		302260	IPO R9 UPG SE ADI LIC	N/A	
N/A		275694	IPO R9 VRTULZD SE ADI LIC	N/A	-
N/A		N/A		273975	IPO BRANCH R9 WEBLM PLDS LIC
N/A		N/A		273978	IPO BRANCH R9 CENTRALIZED ENDPT PLDS LIC
N/A		N/A	-	273976	IPO R9 IP ENDPT TO CM FND SUITE PLDS LIC