



## IP Office

### Overview

IP Office is a highly modular IP telephone system designed to meet the needs of home offices, standalone businesses, and networked branch and head offices for small and medium enterprises. The award-winning IP Office gives growing companies a complete solution for telephony, messaging, networking, conferencing, customer management, and unified communications.

IP Office is a versatile communications solution that combines the reliability and ease of a traditional telephony system with the applications and advantages of an IP telephony solution. This converged communications solution can help businesses reduce costs, increase productivity, and improve customer service.

At Avaya, our guiding principle is that customers should be supported in migrating to IP telephony at their own pace, following their own path. Our clients can use a mix of digital, analog, and IP technology and still take advantage of all the applications that convergence provides.

IP Office addresses basic telephony needs, leverages built-in convergence capabilities, and capitalizes on robust unified applications to deliver intelligent communications to your users and customers. This small office IP phone system simplifies processes, and streamlines the information exchange within systems to create simple and effective communication experiences.

The IP Office phone system supports a wide range of telephones, but the Avaya 5400 Series Digital phones and 5600 Series IP phones have been specifically designed to work with IP Office and provide small and medium enterprises with a choice of solutions to meet business efficiency and customer service requirements.



### What's New With This Release

IP Office Release 4.2 software makes it easy for small and midsize businesses to improve communications and operations using Unified Communications.

Release 4.2 offers Avaya one-X™ Mobile Client for Small Business and Mobile Call Control, designed to give traveling employees the same robust communications capabilities available in the office.

The new Unified Messaging Service offers synchronization and efficient management of voicemail messages through web browser interface.

To accommodate the growing demand for more announcements for on-hold callers, customized by department and within organizations, IP Office 4.2 supports 4 Message-On-Hold sources.

### Business Benefits

- Functions as a traditional phone system or an IP telephony server.
- Supports both single locations and multi-site networks.
- Includes both basic call center and voice messaging capabilities.
- Scales up as business needs grow.
- Protects current investments in communications.

### FEATURES

- Unified Communications for Small Business
- Conferencing
- Messaging
- Networking
- Phone Manager
- SoftConsole
- Computer Telephony Integration (CTI)
- IP Office Manager System Administration Tool
- Remote Hot Desking
- SIP Trunks

## Description

The IP Office family consists of the IP Office 500 and IP Office 412 communications solutions. Systems can be expanded through the use of expansion modules.

Avaya IP Office delivers full voice functionality with a comprehensive set of features. The IP Office system can be configured as a voice-only PBX, using traditional circuit-switched lines, or as an IP telephony server using high-speed ISDN/PRI dial access and/or direct leased line connectivity and/or SIP trunks.

The IP Office 500 communication solution can scale up to 272 telephones and 8 T1/E1 trunks; the IP Office 412 supports up to 360 telephones and 4 T1/E1 trunks.

- **IP Office 412**

Supports 12 expansion modules providing a combination of up to 360 analog, digital, and IP telephones, with capacity for 8 analog trunks or 4 digital trunks (96 T1/PRI channels or 120 E1 channels). Optionally, SIP trunks are also supported. Support for additional analog trunks can be achieved by using Expansion Modules. Features include independently switched LAN ports and optional support for up to 60 voice compression channels.

- **IP Office 500**

Supports 8 expansion modules providing a combination of up to 272 analog, digital, and IP telephones, with capacity for 16 analog trunks or 8 digital trunks (192 T1/PRI channels or 240 E1 channels). Optionally, SIP trunks are also supported. As with the IP Office 412, additional analog trunks can be achieved by using Expansion Modules. Optional support for up to 128 voice compression channels is available.

The Avaya IP Office system includes a robust set of tools for administration (Manager), call tracking (SMDR), system monitoring and diagnostics (System Status Application). The ability for users to manage their own calls is supplied through a simple GUI (Phone Manager). Phone Manager functionality can be enhanced through simple licensing and to support IP softphones.

When needed, add additional applications, including:

- Synchronizing voice mail messages in an email inbox for easy message management
- Scheduling conferences
- Uploading documents for real-time viewing
- Managing audio privileges for conference calls
- Using agent reporting and wallboards for call center environments

The Auto Attendant application enables callers to route their calls to the relevant department/person without the need to speak to an operator/receptionist. Receptionists/operators can take advantage of the SoftConsole GUI application to present a professional view of the business to all callers. TAPI (Telephone Applications Programming Interface) support enables IP Office to be linked to Microsoft Outlook and other popular desktop applications for screen pops and PC-based telephony management.

Investment protection is offered through handsets supported by several Avaya platforms, and provides a migration path that is forward and backwards compatible. IP Office supports IP and digital telephone operation, with large display desktop phones with sophisticated screen-driven feature access. Single button on/off control and menu driven displays are available for selected features for ease of use.

### Benefits

- Functions as a traditional phone system or an IP telephony server.
- Supports both single locations and multi-site networks.
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## Components

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### Included Software Components

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**IP Office Administration Tools - IP Office Manager**

IP Office Manager uses a Windows Graphical User Interface providing an intuitive interface for installation, configuration and subsequent moves and changes.

As with all IP Office applications, the Manager is multi-lingual and includes the ability to use the application both locally and remotely, making it possible for an administrator to manage any of their IP Offices from any country using their local language preference.

Access to each IP Office is protected by passwords and definable user rights. This allows Manager to operate according to the individual administrator's level of expertise.

The IP Office Manager operates on a local copy of the IP Office configuration file. Configurations are prepared and reviewed off line before committing to the IP Office. This has the benefit of ensuring a backup copy of the system configuration is always available for disaster recovery. IP Office has a built-in audit trail that tracks changes to the system configuration, and who has made them. Manager can display the audit trail to assist with problem resolution. The Audit trail records the last 15 changes in the configuration.

**IP Office Administration Tools - IP Office SMDR**

IP Office SMDR (Station Message Detail Reporting) provides call logging and reporting and is often used by third party applications for many call accounting applications. IP Office SMDR provides much greater details of the call, including duration, ring time, hold time, and transfer information. Third party applications use this data to allocate costs to departments, analyze trunk capacity, report usage against account codes etc.

**IP Office Administration Tools - IP Office SSA**

IP Office SSA (System Status Application (SSA) is a diagnostic tool for system managers and administrators to monitor and check the status of IP Office systems locally or remotely. SSA shows both the current state of an IP Office system and details of any problems that have occurred. The information reported is a combination of real-time events, historical events, status and configuration data to assist fault finding and diagnosis. SSA provides real-time status, historic utilization and alarm information for ports, modules and expansion cards on the system. System Status Application's ability to play back previously recorded logs will allow incidents to be played back allowing technicians and maintainers to compare the incident to other system events that occurred during that same time. SSA connects to all variants of IP Office running release 4.0, using an IP connection that can be remote or local. Modem connections at 14.4kbps or above are supported for remote diagnostics.

**IP Office Administration Tools - IP Office SNMP**

IP Office SNMP (Simple Network Management Protocol) is an industry standard designed to allow the management of data equipment from different vendors using a single Network Manager application. The Network Manager will periodically poll equipment to solicit a response, if no response is received an alarm is raised.

In addition to responding to polls, IP Office monitors the state of its Extensions, Trunk cards, Expansion Modules (except WAN3 module) and Media cards so that if an error is detected IP Office will notify the Network Manager. IP Office allows two separate Network Managers to be configured so that both a customers Network Manager and a Maintainers Network Manager to be notified of the same alarm condition.

As the IP Office solution comprises many applications, the core software notifies SNMP events from both Voicemail Pro and Embedded voicemail to warn of approaching storage capacity limits. IP Office has been tested against CastleRock's SNMPC-EE and HP's Network Node Manager (part of the OpenView application suite). The Avaya Integrated Management Suite also uses HP's Network Node Manager.

**IP Office Phone Manager**

Phone Manager Lite is a free IP Office application that allows all employees visual access to telephony features and capabilities, including setting up conference calls and creating a speed dial list. Phone Manager Lite works with all Avaya IP Office telephones including affordable analog and entry-level digital or IP phones, while still offering advanced telephone functionality via a networked desktop PC.

**Open CTI Interfaces**

IP Office is TAPI-compliant out of the box. IP Office integrates easily with popular contact management applications such as Microsoft Outlook, GoldMine, and Maximizer. Sophisticated custom applications can be rapidly developed and deployed with our full software development kit.

**Optional Components****Digital Telephones**

Avaya digital telephones incorporate a sleek design, improved ergonomics, flexibility and enterprise-class voice quality with readily available usability and personalization features. The T3 range of digital Upn telephones provide European style with context-sensitive displays and are available in select European countries only. IP Office supports the following digital telephones:

- 2400 Series: 2402, 2410, 2420
- 4400 Series: 4406, 4412, 4424
- 5400 Series: 5402, 5410, 5420
- 6400 Series: 6408, 6416, 6424
- T3 Upn Series: Compact, Classic, Comfort

**IP Telephones**

Standards-based Avaya IP telephones bring the rich features and functions of Avaya IP Office directly to the desktop, while also supporting desktop applications above and beyond telephony. IP Office supports the following IP telephones:

- 1600 Series: 1603, 1608, 1616
- 4600 Series: 4601, 4602, 4602sw, 4610sw, 4621sw, 4625
- 5600 Series: 5602sw, 5610, 5621
- T3 IP Series: Compact, Classic, Comfort

**3616/3641/3645 IP Wireless Telephones**

IP Wireless telephones that work in conjunction with the Avaya Voice Priority Processor to maintain voice quality over Wireless LANs, and ar

field-upgradeable through an integrated TFTP client, so handsets can be updated with new protocols, features, and capabilities as they become available.

#### **IP DECT 3701/3711 IP Wireless Telephones**

The IP DECT solution delivers the productivity-boosting benefits of IP and wireless communications across multiple offices in a convenient, lightweight handset. It provides businesses with a highly functional wireless solution with the ability to scale to support large numbers of users. This system also supports users in different offices connected via a WAN. The Avaya IP DECT solution radio fixed part (RFP) or base station connects to the IP Office using an IP protocol based on H.323.

#### **Analogue Telephones**

Avaya analog telephones combine style, easy-to-use features and quality with reliable performance and convenient functionality. Avaya IP Office supports the 9281, 9330 and 9335 analog telephones. Additionally, industry standard analog devices such as facsimile machines, modems, and single line telephones are also supported.

#### **Expansion Modules**

- IP Office Phone Module - for adding analog extensions
- IP Office Digital Station Module - for adding digital extensions
- IP Office So8 Module - for Basic Rate Interface devices such as video
- IP Office WAN 3 Module
- IP Office Analog Trunk 16

#### **Trunk Interface Cards**

Not all interface cards are available in all regions:

- IP Office Quad BRI
- IP Office PRI E1
- IP Office Dual PRI E1
- IP Office E1R2MFC
- IP Office Dual E1R2MFC
- IP Office PRI T1
- IP Office Dual PRI T1
- IP Office Quad Analog Trunk

#### **Phone Manager Pro and PC Softphone**

Powerful IP Office desktop applications, Phone Manager Pro and PC Softphone allow users to control and manage phone calls from a networked Windows desktop.

#### **SoftConsole for Operators/Receptionists**

A call handling application for attendants using a Graphical User Interface on a networked PC with their IP Office telephone. Provides an easy way to learn and use sophisticated tools in a comfortable environment.

#### **Conferencing Center**

The Conferencing Center application adds management through the Scheduler component and audio control for the host through the Web Client component. The Scheduler interface enables conferences to be established, e-mail invitations to be sent, or set up ad hoc. The Web Client enables the host to upload and publish documents and presentations for real-time viewing. The Web Client interface allows the Host to manage the audio portion by controlling who has Speak and Listen privileges or who has Listen only capabilities. It is through the Client interface that the Host can Whisper to a specific individual without disruption to the conference call. Participants can also send messages using the web chat functionality privately to the Host or to all participants.

#### **Embedded Voicemail**

An entry-level voicemail application, Embedded Voicemail is available on the IP Office 500 system, providing 4 ports of voice messaging with 15 hours of storage. With the 40 Auto Attendants, businesses can construct customized automated services so callers can efficiently navigate the system and reach the right person, without the assistance of an operator. For easy message management, voicemail to email presentation delivers the voice message to the users email Inbox. Alternatively, a notification message can be sent to the recipients email Inbox.

#### **VoiceMail Pro**

VoiceMail Pro includes a powerful voice processing system and an easy to use graphical user interface, providing message handling for individuals and groups. Voicemail messages can be incorporated into a user's email mailbox, and with Text To Speech, users can access voice and email messages through the telephone. The VoiceMail Pro application can dial users, internally or externally, to notify them of a voicemail; prompt for a PIN code when changing a Forwarding or Follow Me number from an external telephone; and provide voicemail services to multiple IP Office systems over the LAN, WAN or a Frame Relay network.

#### **Contact Store**

The standard Call Recording facilities provided with IP Office and Voicemail Pro can be extended further by using IP Office ContactStore. IP Office ContactStore stores and catalogs recordings so that they are easily accessible for later retrieval.

#### **Interactive Voice Response (IVR) and Text to Speech (TTS)**

Automated customized systems allow callers to interact with business information systems, such as account inquiry systems, automated ordering systems and ticket purchasing systems, without waiting for an available agent. Adding a text-to-speech application allows the system to read information back to callers. Used with VoiceMail Pro, text to speech allows roaming employees to listen to emails.

#### **VoiceMail Pro Networked Messaging**

By licensing IP Office VoiceMail Pro to support networked messaging, businesses can integrate different voicemail systems across their organization. The networked voicemail systems can pass and deliver messages to a user's mailbox seamlessly.

#### **Unified Messaging Service**

Enhancement to the standard Voicemail to E-mail presentation, Unified Messaging Service provides message synchronization. Additionally, employees can access voicemail messages through web browser enabling them to select and listen to specific voicemail messages.

#### Compact Contact Center

A full customer management toolset including real time agent, system, group management, standard and custom reporting; real time tracking and analysis; options for agent connection and remote agent support; and wallboards. Compact Contact Center supports installations of up to 75 agents.

## Manufacturing Information

Avaya IP Office is designed in the US and UK and manufactured in Ireland.

## Country Availability

<b>APAC</b>
<b>Australia</b> 31-May-2004
<b>China</b> 31-May-2004
<b>Hong Kong</b> 5-Nov-2005
<b>India</b> 5-Nov-2005
<b>Korea</b> 31-May-2004
<b>New Zealand</b> 31-May-2004
<b>Taiwan</b> 5-Nov-2005
<b>CALA</b>
<b>Argentina</b> 28-Jun-2002
<b>Brazil</b> 28-Jun-2002
<b>Chile</b> 28-Jun-2002
<b>Colombia</b> 28-Jun-2002
<b>Mexico</b> 28-Jun-2002
<b>Peru</b> 28-Jun-2002
<b>EMEA</b>
<b>Austria</b> 10-Jan-2002
<b>Belgium</b> 10-Jan-2002
<b>Bulgaria</b> 26-Feb-2007
<b>Croatia</b> 10-Jan-2002
<b>Cyprus</b> 31-May-2004
<b>Czech Republic</b> 31-May-2004
<b>Denmark</b> 10-Jan-2002
<b>Estonia</b> 31-May-2004
<b>Finland</b> 10-Jan-2002
<b>France</b> 10-Jan-2002
<b>Germany</b> 10-Jan-2002
<b>Greece</b> 13-Dec-2002
<b>Hungary</b> 10-Jan-2002

<b>Iceland</b>	10-Jan-2002
<b>Ireland</b>	10-Jan-2002
<b>Italy</b>	10-Jan-2002
<b>Latvia</b>	31-May-2004
<b>Lithuania</b>	31-May-2004
<b>Luxembourg</b>	10-Jan-2002
<b>Malta</b>	31-May-2004
<b>Netherlands</b>	10-Jan-2002
<b>Norway</b>	10-Jan-2002
<b>Poland</b>	13-Dec-2002
<b>Portugal</b>	10-Jan-2002
<b>Romania</b>	26-Feb-2007
<b>Russia</b>	13-Jun-2003
<b>Slovakia</b>	31-May-2004
<b>Slovenia</b>	31-May-2004
<b>South Africa</b>	10-Jan-2002
<b>Spain</b>	10-Jan-2002
<b>Sweden</b>	10-Jan-2002
<b>Switzerland</b>	10-Jan-2002
<b>United Kingdom</b>	10-Jan-2002
<b>NAR</b>	
<b>United States</b>	17-May-2002
<b>Canada</b>	17-May-2002

## Release History

### IP Office 4.2

#### IP Office

IP Office Release 4.2 software makes it easy for small and midsize businesses to improve communications and operations using Unified Communications.

Release 4.2 offers Avaya one-X™ Mobile Client for Small Business and Mobile Call Control, designed to give traveling employees the same robust communications capabilities available in the office.

The new Unified Messaging Service offers synchronization and efficient management of voicemail messages through web browser interface.

To accommodate the growing demand for more announcements for on-hold callers, customized by department and within organizations, IP Office 4.2 supports 4 Message-On-Hold sources.

### IP Office 4.1

#### IP Office

IP Office Release 4.1 software makes it easy for small and midsize businesses to improve communications and operations. New mobility offerings include:

- Expanded IP Wireless capabilities with 3641 and 3645 telephones
- VPN Phone for remote workers
- Telecommuter capabilities, ideal for travelers

System administrators can minimize disruption to group work areas by disabling speaker on many digital and IP series telephones. IP Office 500 has been expanded to support 8 T1/E1 digital trunks (192 T1/PRI or 240 E1).

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## IP Office 4.0

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### IP Office

The IP Office 500 is a highly modular system. Using the built-in Standard Edition software, IP Office is well suited for an environment of fewer than 30 users.

Through an easy upgrade license, Professional Edition capabilities and capacities are easily achieved. The IP Office 500 system can support up to 270 telephones and 30 VoiceMail Pro voice messaging ports. Optional licensing is available for advanced applications including Conferencing Center, ContactStore, Interactive Voice Response, Text-to-Speech, and Compact Contact Center.

The System Status Application (SSA) is a new application that allows system administrators and maintenance engineers to easily monitor and check the status of IP Office systems through an intuitive graphic interface. The SSA displays the current state of an IP Office system and details any issues that may need attention. On-screen reports are a combination of real-time events, historical events, status, and configuration data that will assist diagnosis, fault-finding and solutions. Access to the SSA client can be local or remote (modem connections of 14.4kbps and above are supported for remote diagnostics). Historical alarms are stored on IP Office without the need for a local PC.

IP Office Release 4.0 introduced Session Initiated Protocol (SIP) trunks. SIP trunks allow IP Office users to take advantage of new telephony services being offered by Internet telephony service providers (ITSPs). In many cases, these telephony services can offer substantial savings over traditional lines.

The IP Office solution allows all users, regardless of their phone type, to make and receive SIP calls. Even basic analog phones can make or receive SIP calls. SIP trunks are handled like any other line on IP Office, affording all the call routing and toll control needed to manage inbound and outbound calls. Should a SIP trunk fail or become busy, calls are re-routed to the PSTN automatically. To minimize Voice Compression usage, RTP relay is also supported to allow IP phones to converse directly once the call is set up. The number of simultaneous SIP calls allowed on the system at one time can be arranged by a license.

Visual Voice allows users to easily access and manage voicemails through their large display phones. No need to ever miss an important voicemail again—cascaded out-calling on VoiceMail Pro can escalate voicemail to multiple devices and locations. This is particularly useful for businesses that can't necessarily attend to each off-hours call immediately, yet place high importance on each inbound query, like medical services or doctor surgeries. Now during out-of-hours, calls can be returned without exposing private mobile phone numbers to clients or patients. VoiceMail Pro channel reservations help guarantee availability of a messaging port for specific business-critical activities such as playing an announcement or recording an important call. Embedded Voicemail now offers a number of key enhancements such as support for announcements, visual voice, and personal auto attendant. This makes it a cost effective messaging platform for single site locations at an affordable price.

Hot-desking allows nomadic workers such as consultants or managers to log into any IP Office site from any phone (analog, digital or IP) and make it work just like their main office phone. With hot-desking, they have a single number and voicemail, and leverage the same features and privileges (such as international calls) that they enjoy in their main office. Support for hot-desking across Small Community Networks (SCN) is available through the Advanced Networking license.

Hunt groups now include not only local members but also remote members within the Small Community Network. Calls to the hunt group continue to be distributed in a variety of ways (sequential, rotary, longest waiting, collective). Support for distributed hunt groups across SCN is available through the Advanced Networking license. Should an agent step away from their desk or fail to answer a hunt group call, the system can be programmed to automatically put them in a state to not receive another group call. This capability streamlines call handling and minimizes unnecessary long ring cycles for the customer.

Agent states include: Busy Wrap-Up, Busy Not Available, or Logged Off. There is more flexible call queuing with announcements on all messaging options (VoiceMail Lite, Embedded Voicemail, VoiceMail Pro) so that waiting customers receive informative comfort messages as warranted. Times between announcements are fully configurable through an intuitive graphical interface and users can now also benefit by having their own personal announcement. Calls can now also be recorded for the life of call for specific callers and/or against specific users/hunt-groups. This is particularly useful for tracking or training purposes, and is greatly simplified through the ContactStore application. All conversations regardless of telephone type are capable of being recorded.

ISDN enhancements include Advice of Charge (AOC-D) increases end user cost controls; Call Completion to Busy Subscriber (CCBS) increases end user productivity; Malicious Call Identification (MCID) enhances safety and security; Partial Rerouting (PR) optimizes trunk utilization.

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## IP Office 3.2

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### IP Office

System software enhancements included a new look and feel of Manager for administration as well as Security enhancements including Audit Trail, User Rights Management, and Email support of System Alarms. Mobility enhancements were added including Mobile Twinning and the introduction of the new Avaya 3620 IP Wireless telephone. To meet the needs of the small and midsize business, the Avaya Voice Priority Process (AVPP) 10 and 20 were released. Other enhancements in mobility included personal automated attendant, forwarding fax and reply to email via touchtone user interface once received in the voice mail box.

Other system enhancements included Appearance Ring Delays, additional options with regards to Music-On-Hold, and Authorization Codes for the CALA Region. New hardware included the support for the T3 IP Telephones in EMEA Region, introduction of the 5621SW backlit IP telephone, and support for the 4625SW color IP telephone.

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## IP Office 3.1

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### IP Office

IP Office Release 3.1 introduced Extension Twinning in select regions. To better accommodate single line sets and Message Waiting Indicator additional voltages were supported (line polarity reversal, 51V Stepped, 81V and 101V). IP telephony improvements included increased duration of echo cancellation from 25ms to 64ms on the newly introduced VCM modules (VCM 4/8/16/24) and Fallback from IP trunks to

private leased lines or, via IP Office Least Cost Routing, to PSTN trunks.

The Avaya IP DECT mobility solution was increased to support 120 handsets and 32 base units. Support for Cyrillic characters was introduced on the 2400, 5400, and 6400 series digital sets and on the 4600 and 5600 series IP sets. Additional set support included the 4621 IP backlit telephone and EU24BL adjunct, the Avaya T3 Compact, Classic, and Comfort digital telephones as well as the T3 headset link and T3 DSS adjunct.

## Features

### Unified Communications for Small Business

Unified Communications for Small Business is a suite of applications:

- Turns a home phone into an IP Office telephone with the Phone Manager Pro intelligent desktop application using Telecommuter capabilities.
- Enables a mobile device to simultaneously ring when calls arrive at an IP Office telephone.
- Empowers the mobile user with complete call control—place a caller on hold, transfer, toggle between calls, or create a conference call.
- Downloads software using mobile devices (Windows Mobile 5 & 6 and Symbian Single-Mode Version 4). This enables the mobile user to make and receive calls through the IP Office system, saving on toll charges, retaining customer records, and maintaining mobile number privacy.
- Provides remote workers with software to turn the remote IP hard phone into an extension of the system without the need for remote VPN (Virtual Private Network) gateways.

Unified Communications is about allowing communications to happen where and when you want it to happen, using the device that's most appropriate at that time and in that place. It helps small businesses deliver real-time responsiveness to customers, suppliers, and vendors wherever employees are. Unified Communications enables non-stop productivity even when employees can't get into the office. Unified Communications help businesses retain and recruit talent from anywhere—no longer limit the labor pool to local geography.

### Conferencing

Avaya IP Office conferencing applications provide a private audio-conference bridge for communicating with a large number of people. The IP Office conferencing capability supports up to 2 conferences with as many as 64 participants on a single conference call (or combinations thereof). Multiple conferences can take place simultaneously. With the Meet-me Conferencing Bridge a PIN number can be added for more secure conferences, requiring participants to input a code before entering the call. The Conferencing Center application adds management through the Scheduler component and audio control for the host through the Web Client component. The Scheduler interface enables conferences to be established, e-mail invitations to be sent, or set up ad hoc. The Web Client enables the host to upload and publish documents and presentations for real-time viewing. The Web Client interface allows the Host to manage the audio portion by controlling who has Speak and Listen privileges or who has Listen only capabilities. It is through the Client interface that the Host can Whisper to a specific individual without disruption to the conference call. Participants can also send messages using the web chat functionality privately to the Host or to all participants.

Employees can cost effectively conduct meetings over the phone and spontaneously collaborate, share information and make decisions creating more effective work practices leading to shorter project times and increased employee productivity. The Meet-me Conference Bridge can lower conferencing costs by reducing the need for third-party conferencing service providers. ROI on IP Office conferencing solutions can be as short as 9-10 weeks, depending on location and provider fees.

### Messaging

IP Office offers several messaging applications designed to meet the needs of the business. IP Office VoiceMail Lite, Embedded Voicemail and VoiceMail Pro offer automated attendant, voicemail, unified messaging, e-mail reading, fax routing, Integrated Voice Response (IVR), text-to-speech (TTS), centralized voicemail, and networked messaging.

Voicemail provides a telephone answering machine with a personalized greeting on every employee's desk and allows call to leave spoken messages when the user cannot answer a telephone call. Voicemail messages are retrieved either locally remotely via any telephone (users are prompted for a PIN if they are using any telephone other than their allocated extension or a trusted location e.g. mobile telephone). For users who prefer to have email as their main message store, they can forward their voice messages to their email and collect them via their email account.

Messaging applications are vital for businesses that want to ensure that every call is answered, even after hours or when everyone is busy, and that messages are properly and efficiently managed. Employees stay connected to the business at times from any location, helping customers reach the right person, extension or department, which can lead to improved customer satisfaction. Employee efficiency and productivity are maximized as calls are appropriately routed and quickly handled during peak call periods.

### Networking

Small Community Networking links support multiple IP Office systems via a standard data network, providing feature transparency and advanced applications such as centralized voice messaging.

Businesses can extend communications capabilities like messaging to remote locations, unify voice communications across multiple sites, or connect branch sites. Networking can cost-effectively enhance the value of an existing data network by improving operations, inter-company communications, and processes—all while controlling communications and system management costs.

### **Phone Manager**

Phone Manager is a desktop communications application available in three versions: Phone Manager Lite, Phone Manager Pro, and Phone Manager Pro PC Softphone (VoIP mode).

The Phone Manager application offers control of a user's telephone from their PC. Phone Manager Lite and Phone Manager Pro are for the user who prefers to access telephony features (making/receiving call, setting up conference calls, speed dials, etc.) through the PC.

Phone Manager Pro Telecommuter mode provides the user with the benefits of call control through the Phone Manager Pro application while providing the talk path through an external number (i.e., home number, mobile number).

Phone Manager Pro PC Softphone is for anyone who has a laptop and high-speed internet access while traveling or working away from their desk or office. The Phone Manager Pro PC Softphone adds PC-based telephony via a sound card or USB headset/handset to the product.

Simplifies communications via point-and-click access to commonly used features. The Phone Manager application includes many productivity enhancing capabilities such as a Busy Lamp Field (BLF) and Speed Dials. This allows users to customize the application to reflect the status of their departments, immediate colleagues, or the whole company.

User friendly icons allow frequently called internal and external (work, mobile/cell, home) numbers to be dialed via a single-click. The Busy Lamp Field feature allows you to see at a glance who is available to take a call, who is already on a call, who has forwarded their phone, and who has placed their phone on Do Not Disturb.

The Phone Manager application also provides the user with a call history log of calls made, received, and missed. It keeps record of call duration, including any time the caller was placed on hold, for accurate billing and reconciliation.

Phone Manager PC Softphone supports mobile, traveling workers by enabling lower long-distance costs, and makes staying in touch with co-workers and customers easier while traveling.

### **SoftConsole**

SoftConsole is the PC-based Windows Operator Console for IP Office working with a desktop telephone. Commands and actions are available through menus. Some features can only be used under certain conditions—features will be grayed out until conditions change that allow the feature to be used.

Call details include: Calling Name & Number, Called Name & Number, Call Status, Call Duration, and Notes. Actions within the application include: Directory entries, configuration of Script based on Caller ID, Conference Room, Queue and Busy Lamp Field Panel, Held and Parked Calls, Park Slots, and Call History.

SoftConsole has been designed to improve operator service by providing the operator with call information and available actions to simplify call handling and give the appropriate response to the caller. With this easy-to-use software tool the operator can maintain visibility of the number and type of calls waiting and so ensure that clients are greeted in a professional manner. SoftConsole has many configurable options available to the operator to personalize the look and feel. The Operator can tailor the usability specifically to each of their personal preferences.

### **Computer Telephony Integration (CTI)**

CTI allows users to access information in company databases during phone calls. A services representative can automatically receive detailed customer information in a screen-pop on their PC when a customer calls. Employees can also control their phone via a familiar GUI. CTI is based on the Telephone Applications Programming Interface standard, which supports Microsoft Windows applications such as Microsoft Outlook.

Through CTI, IP Office can improve employee efficiency and productivity by combining telephone and PC capabilities behind one easy-to-use GUI. It can enhance customer contacts by providing employees with access to important information.

### **IP Office Manager System Administration Tool**

IP Office Manager is the system administration tool. Using a Windows Graphical User Interface, Manager provides an intuitive interface for installation, configuration and subsequent moves, additions, and changes.

As with all IP Office applications, the Manager is multi-lingual and provides the ability to use the application both locally and remotely. It is possible for an administrator to manage any of their IP Offices from any country using their local language preference. Access to each IP Office is protected by passwords and definable user rights. This allows Manager to operate according to the individual administrator's level of expertise. Manager provides remote management facilities and off-line configuration.

By monitoring activity across all locations, businesses can control costs, increase efficiencies, and drive improved system performance.

### **Remote Hot Desking**

Hot Desking is the ability for a user on one IP Office system to log into any telephone (analog, digital, or IP) on another IP Office system within the Small Community Network.

A user can make and receive calls from any IP Office location as if using their phone at their primary IP Office site. Remote hot desking offers callers and other associates single number access to reach an employee, improves mobility for the employee, and controls costs since privileges and calling restrictions still apply.

### SIP Trunks

SIP allows IP Office users to take advantage of new telephony services being offered by Internet Telephony Service Providers.

These telephony services can offer substantial savings in comparison to traditional trunks (analog and digital). With IP Office, regardless of the phone type, users can make and receive calls on SIP trunks. SIP trunks are handled like any other trunk on the IP Office, affording the call routing and control needed to manage inbound and outbound calls.

## Technical

### Technical Specifications

### Technical Specifications

Unit Dimensions
<b>IP Office 412 and all Expansion Modules</b> 17.5 W x 2.8 H x 9.7" D (445 x 71 x 245mm) Minimum clearance front and back: 3" (75mm)
<b>IP Office 500</b> 17.5 W x 2.9 H x 14.4" D (445 x 73 x 365mm) Minimum clearance front and back: 3" (75mm)
Weight
<b>IP Office 500 System Unit</b> 7.0lbs/3.2kg
<b>IP Office 412 System Unit</b> 6.7lbs/3.0Kg
<b>Analog 16 Module</b> 6.5lbs/2.9Kg
<b>DS 16 Module</b> 6.7lbs/3.0Kg
<b>DS 30 Module</b> 7.8lbs/3.5Kg
<b>WAN3 Module</b> 6.3lbs/2.8Kg
<b>So8 Module</b> 6.3lbs/2.8Kg
<b>Phone 8 Module</b> 6.3lbs/2.8Kg
<b>Phone 16 Module</b> 6.5lbs/2.9Kg
<b>Phone 30 Module</b> 6.94lbs/3.1Kg
Environmental
<b>Temperature</b> 32° to 104°F (0° to +40°C). 95% relative humidity, non-condensing.
Interface

**DTE Port**

- 25 way D-Type female connector, V.24/V.28
- 9 way D-type

**ISDN Ports**

EU Interfaces:

- BRI: RJ45 sockets. ETSI S/T Interface to CTR3 for Pan European Connection
- PRI E1: RJ45 socket. ETSI S/T Interface to CTR4 for Pan European Connection
- PRI T1/J1: RJ45 socket: FCC Part 68/JATE connection

USA Interfaces:

- PRI T1 Service: Ground Start (GS) - Default, E&M, 56k data for 5ESS, 56/64/64 restricted for 4ESS
- PRI ISDN Switch support: 4ESS, 5ESS, DMS-100, DMS-250 (includes conformance to ANSI T1.607 and Bellcore Special Report SR4287, 1992)
- PRI ISDN Services: AT&T Megacom 800, AT&T WATS (4ESS), AT&T SDS Accunet 56kB/s and 64kB/s (4ESS), AT&T Multiquest (4ESS)

**Analog Trunk Ports**

RJ45 sockets: Loop start/Ground start (regional dependant)

**Power Fail Ports**

RJ45 sockets

**ISDN Data Rates**

- BRI: B-channel 64kbps or 56kbps, D-channel 16kbps
- PRI: B-channel 64kbps or 56kbps, D-channel 64kbps

**Analog Phone Ports**

- RJ45 sockets
- CLI Schemes: DTMFA, DTMFC, DTMFD, FSK and UK20
- REN: 2 (External Bell via POT port: REN = 1)
- Off Hook Current: 25mA
- Ring Voltage: 40V (nominal) RMS

**LAN**

RJ45 sockets. Auto-negotiating 10/100 BaseT Ethernet (10/100Mbps)

**WAN**

- IP500: RJ45 Ethernet socket
- IP412: 37 way D-Type female sockets. X.21 interface to 2048k bps, V.35 interface to 2048Kbps and V.24 Interface to 19.2Kbps

**Audio**

- 3.5mm Stereo Jack socket. Input impedance - 10k /channel
- Maximum AC signal - 200mV rms

**External Output Port**

- 3.5mm Stereo Jack socket. Switching Capacity - 0.7A
- Maximum Voltage - 55V DC. On state resistance - 0.7
- Short circuit current - 1A. Reverse circuit current capacity - 1.4A

**Embedded Voice Memory**

- IP Office 500: 512MB Compact Flash memory card

## Technical Interoperability

### Interoperability with Non-Avaya Products

#### SIP VoIP Service Providers

IP Office SIP trunks have been successfully tested with ITSP SIP providers. This table of providers is a statement of fact and not any form of recommendation from Avaya, nor does it exclude other service providers. Any details of the expected operation and service should be confirmed in writing with the individual service provider.

Visit [http://marketingtools.avaya.com/knowledgebase/ipoffice41en/general/sip\\_providers.htm](http://marketingtools.avaya.com/knowledgebase/ipoffice41en/general/sip_providers.htm)

## Technologies Used

### Security

#### Security Features

Avaya IP Office employs comprehensive security measures including firewall, PAP, CHAP, time profiles, trusted locations and dial back services.

The Remote Access Server (RAS) allows dial-up users to be authenticated using either PAP or CHAP. Once authenticated, remote user is automatically assigned an IP address to use while connected to the LAN.

Individual profiles and firewalls can be applied to the user restricting access.

For further security and accounting ease, Avaya IP Office can automatically call a user back.

The Remote Administration and Maintenance feature helps reduce the risk of unauthorized access to a company's network

IP Office has a built-in audit trail that tracks changes to the system configuration, and who has made them. Manager can display the audit trail to assist with problem resolution. The Audit trail records the last 15 changes in the configuration and records many key elements such as:

-Configuration Changed - For configuration changes, the log will report at a high level on all configuration categories (use hunt group...) that have been changed.

-Configuration Erased

-Configuration merged

-Reboot - user instigated reboot

-Upgrade

-Cold Start

-Warm Start

-Write at HH:MM - This is when the administrator saved the configuration via the schedule option

-Write with Immediate Reboot

-Write with Reboot When Free

To reduce the risk of unauthorized access through Remote Administration and Maintenance, IP Office customers must implement and maintain strict security measures. Without these measures, telephone numbers and access codes can be compromised. Additionally, hackers may obtain access codes and publish such information to other hackers.

It is the customer's responsibility to take appropriate steps to properly implement the security features, administer restriction levels, and control distribution of access codes. Under applicable tariffs, customers will be responsible for payment of toll charges. Avaya cannot be responsible for such charges and will not make any allowance or give any credit resulting from unauthorized access.

### The following can be found in our Support Area for this product:

**Documentation** (<http://support.avaya.com/japple/css/japple?PAGE=Product&temp.productID=129487>)

**Training** (<http://www.avaya.com/gcm/master-usa/en-us/training/training.htm>)

**User Groups** (<http://www.avaya.com/gcm/master-usa/en-us/corporate/usergroups/index.htm>)

**Developer Connection** (<http://www.avaya.com/gcm/master-usa/en-us/corporate/alliances/developerconnection/index.htm>)

**Downloads** (<http://support.avaya.com/japple/css/japple?PAGE=ProductArea&temp.productID=129487&temp.bucketID=108025>)

**Known Issues and Solutions** (<http://support.avaya.com/japple/css/japple?PAGE=Area&#38;temp.bucketID=108023>)

**User Guides** (<http://support.avaya.com/japple/css/japple?PAGE=Area&#38;temp.bucketID=160257>)

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