Deploying IP Office Server Edition and Application Servers

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Contents

Part 1: Introduction

Chapter 1: Purpose

This document covers the processes for installing and maintaining Linux-based IP Office servers. That is:

- Primary, secondary and non-expansion IP500 V2 servers in an IP Office Server Edition or Select network.
- An IP Office Application server to support a IP500 V2 system.

This document covers installation of a pre-built server supplied by Avaya or installation onto a physical server. For installation of IP Office as a virtualized servers, refer also to the *"Deploying Avaya IP Office Servers as Virtual Machines"* document.

- This document does not cover the installation of a Unified Communications Module module. Refer to Installing and Maintaining a IP Office Unified Communications Module.

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Deploying an IP Office Server Edition Solution

About this task

You can install the software for an IP Office Server Edition Solution only on the servers that Avaya supports. Avaya does not provide support for Server Edition software that you install on any other servers.

Related links

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Licenses and Subscriptions

The entitlements necessary to run specific features on the primary server are provided through the installation of licenses or subscriptions. For a primary server in a network, those entitlements are shared with other servers within the network.

The two method of granting these entitlements are:

- **PLDS Licenses**

  These entitlements are supplied in an XML file which is uploaded to the primary server. Though the server configuration of each server in the network, you can then allocate particular numbers of licenses to each server. See Licenses on page 11.

- **Subscriptions**

  Subscriptions are entitlements requested from an Avaya subscription server. They are per-month and per-user entitlements, purchased for a set period such as 6-months or 1-year. See Subscriptions on page 12.

In both cases, the licenses or subscriptions are validated against a value unique to the particular primary server. Depending on the method being used, either its **WebLM ID** or its **PLDS ID**.

- For servers supplied by Avaya, those values are printed on the server packaging and the server itself.
- For non-Avaya servers, the values are shown on the ignition login menu following software installation and should be noted.

The above means that the stage at which licenses or subscriptions for a particular primary server can be obtained varies:

- For Avaya servers, licenses or subscriptions can be requested before installation.
- For non-Avaya servers, licenses or subscriptions can only be requested once server ignition has been performed.

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Licenses

These entitlements are supplied in an XML file which is uploaded to the primary server. Though the server configuration of each server in the network, you can then allocate particular numbers of licenses to each server.

The license file is normally valid for a particular release of IP Office software and its service/feature packs. However, more major upgrades required a new license file.

Related links

Licenses and Subscriptions on page 11

Subscriptions

Subscriptions are entitlements requested from an Avaya subscription server. They are per-month and per-user entitlements, purchased for a set period such as 6-months or 1-year.

Subscriptions can be divided into two main groups; user subscriptions and application subscriptions for selected applications. The user subscriptions are allocated through the individual user configurations.

Ordering Subscriptions

Subscription for an **Server Edition – Subscription** mode system are ordered from the Avaya Channel Marketplace, using the primary server's **PLDS ID**.

After ordering the subscriptions, details of the customer number and address of the subscription server are supplied in an email. Those details are required during the initial system configuration.

Subscription Operation

In order to use subscriptions, the system must have:

- An internet connection.
- An accurate SNTP source (the default used is `time.google.com`).
- An IP route to the customer network's default gateway for external internet traffic.
- The IP address of the customer network's DNS server.

During operation:

- If connection to the subscription server is lost, the system continues running with the existing subscription entitlements it has received for 30-days.
- If when connected, any subscriptions expire, the feature or features associated with the expired subscriptions cease operation immediately.
  - The person responsible for the subscriptions must ensure that they are aware of all subscription expiry dates and that they renew subscriptions in a timely manner, including allowing time for any renewal orders to be processed.

Related links

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Default parameters

They are as number of scenarios where the server has a set of default parameters applied:

- Pre-built servers supplied by Avaya
- Servers installed from an automatic installation USB key
- Servers installed from a virtual server OVA file

The default parameters server settings are:

Parameter	Value
Language for installation	US English
Keyboard for the system	US English
Hostname	MAC_HOSTNAME: : 00:AE:EF:00:00:00
System eth0	• Connection name: eth0 • IP address: 192.168.42.1 • Netmask: 255.255.255.0 • Gateway: 0.0.0.0
System eth1	• Connection name: eth1 • IP address: 192.168.43.1 • Netmask: 255.255.255.0 • Gateway: 0.0.0.0
Root Password	`Administrator`

Related links

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Server Types and Roles

The IP Office software installed using the processes in this documentation can perform a number of different IP Office server roles. The particular role is selected during the installation process. The following is a general summary of the different IP Office servers.

Server	Descriptions	Services
Primary Server	This Linux-based IP Office server is the mandatory component of any Server Edition network. It performs licensing/subscription control for all other servers in the network and is the host for most application services.	IP Office Avaya one-X Portal Voicemail Pro Media Manager Collaboration Server
Secondary Server	This Linux-based IP Office server is similar to the primary and for a range of resilience scenarios it can temporarily take over many of the functions of the primary server.	IP Office Avaya one-X Portal Voicemail Pro
Expansion Server (L)	This Linux-based server is used to support additional IP telephony connections with a Server Edition Network. For example, to provide local IP telephony support at different location than the existing primary and secondary server. This helps network performance and resilience.	IP Office

Table continues…

Server	Descriptions	Services
Expansion Server (V2)	This is the Avaya proprietary hardware based version of IP Office, called IP Office IP500 V2. When used as an expansion server in an Server Edition network, it allows the connection of non-IP based trunks and telephones to that network. Its installation is not covered by this document, other than how to connect the server to a Server Edition network.	IP Office
IP Office Application Server	The Linux-based IP Office server is used to provide support to the IP Office telephony service running on another server. • When used to support a standalone or SCN networked IP Office, it can support all the services indicated. • When used to support a Server Edition primary or secondary, only one-X Portal is supported.	Avaya one-X Portal Voicemail Pro Media Manager Collaboration Server
Unified Communications Module (UCM)	Linux-based server running on a proprietary hardware that installs directly into an IP Office IP500 V2 system and then provides services for that system. Not supported in Server Edition networks. For installation details, refer to the Installing and Maintaining an IP Office Unified Communications Module.	one-X Portal Voicemail Pro

Related links

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Virtual IP Office Servers

The software installation sections of this document cover the installation of IP Office software onto physical server PCs. That being done using the ISO file provided by Avaya.

IP Officesoftware can also be installed onto virtual server PCs running on various different virtual server platforms. For example; VMware, Microsoft Hyper-V, Azure, and Amazon Web Services (AWS). However, this is not done using the ISO file. Instead different installation packages are provided for each different type of virtual server platform.

For details, refer to Deploying Avaya IP Office Servers as Virtual Machines.

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Server Edition Network

The main hub of an IP Office Server Edition network is the mandatory primary server. That is a Linux-based IP Office server supporting both IP telephony and a range of supporting application services for the telephony users.

The network is then expanded using the optional secondary server and expansion servers. These provide additional features and direct support for IP telephony services is different physical locations.

In addition, in some scenarios an IP Office Application server can be used to support the primary and/or secondary server. For details of the server roles, see Server Types and Roles on page 13. For details of capacity support, see Avaya IP Office™ Platform Guidelines: Capacity.

Important:

- All additional servers in the network must be configured to the same licensing mode as the primary server, that is **Server Edition**, **Server Edition - Select** or **Server Edition - Subscription**.

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Small Community Network Support

When used to support a network of IP500 V2 systems, the IP Office Application server is subject to the following

one-X Portal for IP Office

A Small Community Network only supports a single Avaya one-X Portal server. The application can support up to 500 simultaneous Avaya one-X Portal users.

Voicemail Pro

In an Small Community Network, one Voicemail Pro server stores all mailboxes and their related messages, greeting and announcements. Additional Voicemail Pro servers installed in the network perform other specific roles. For full details, refer to the Voicemail Pro manual (see Administering IP Office Voicemail Pro).

Setting	Description
Centralized Voicemail Server	In the network, one Voicemail Pro server acts as the centralized voicemail server for all IP Office systems. This server stores all mailboxes and their related messages, greeting and announcements. This is mandatory regardless of the presence of any additional options below. The IP Office associated with the centralized server holds the licenses for voicemail server support. The other servers in the network do not require any voicemail licenses in order to use this server as their voicemail server.
Fallback IP Office	Without needing to install another Voicemail Pro server, you can configure the IP Office hosting the centralized voicemail server such that, if for any reason it is stopped or disabled, the centralized voicemail server accepts control from another IP Office in the network.

Table continues…

Setting	Description
Distributed Voicemail Servers	You can install additional Voicemail Pro servers and associated these with other IP Office systems to provide call services for those systems. For example to record messages, play announcements. However, any messages they record are automatically transferred to and stored on the centralized server. The IP Office associated with the distributed server requires the appropriate licenses for voicemail server support.
Backup Voicemail Server	You can specify an additional voicemail server as the backup server for the centralized server. If for any reason the voicemail application on the centralized server is stopped or disabled, the centralized IP Office will switch to using the backup voicemail server for its voicemail functions. • During normal operation the centralized and backup voicemail servers automatically exchange information about mailboxes and voicemail service configuration. • The backup voicemail server uses the licenses provided by the centralized IP Office. A distributed server cannot also be used as a backup server and vice versa.

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Additional Documentation

For a list of IP Office manuals and user guides, refer to Avaya IP Office™ Platform Manuals and User Guides.

The following additional documentation are useful references for planning the server installation:

- Avaya IP Office™ Platform Guidelines: Capacity
- IP Office Resilience Overview
- Deploying Avaya IP Office Servers as Virtual Machines
- Administering Avaya IP Office™ Platform with Manager
- Administering Avaya IP Office™ Platform with Web Manager
- Administering Avaya IP Office™ Platform Media Manager
- Administering IP Office Voicemail Pro
- IP Office SIP Telephone Installation Notes
- Avaya IP Office™ Platform H.323 Telephone Installation

Related links

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Chapter 2: Subscriptions

Subscriptions are monthly paid entitlements. They can be divided into two main groups;

- per-user per-month user subscriptions
- per-month application subscriptions for selected applications.

In practice, subscriptions are purchased for a specific duration. For example; 6-months, 1-year, 3-years.

During operation:

- If connection to the subscription server is lost, the IP Office system continues running with the existing subscription entitlements it has already received for 30-days.
- If when connected, any subscription expires, the feature or features associated with the expired subscriptions cease operation immediately.
  - The person responsible for ordering subscriptions must ensure that they are aware of subscription expiry dates. They must renew subscriptions in a timely manner, including time for renewal orders to be processed.

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Ordering Subscriptions

Subscription for an IP Office subscription mode system are ordered from the Avaya Channel Marketplace. The subscriptions are ordered against the PLDS ID of the IP Office system.

After ordering the subscriptions, details of the customer number and address of the subscription server are supplied in an email. Those details are required during the initial system configuration.

- The person responsible for ordering subscriptions must ensure that they are aware of subscription expiry dates. They must renew subscriptions in a timely manner, including time for renewal orders to be processed.

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Trial Mode

When ordering an IP Office subscription system through the Avaya Channel Marketplace, trial mode can be selected. Trial mode enables the IP Office to operate for up to 30-days using free subscriptions.

- The trial mode IP Office system indicates that it is in 30-day subscription error mode in applications such as the System Status Application and through system alarms.
- Before the 30-day trial period ends, the subscriber can return to Avaya Channel Marketplace and request a conversion to paid-subscriptions mode.

Important:

- To avoid any interruptions to customer telephony services, you must request the change to paid-subscriptions before the end of the 30-day trial period. That request must include allowance for sufficient working time to implement the request.

Related links

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User Subscriptions

Each user on the system requires a subscription. All subscribed users are then able to use an the system's telephone extension (analog, digital or IP) and voicemail features. The following user subscriptions can be ordered: **Telephony User**, **Telephony Plus User** and **Unified Communications User**. The subscriptions are applied to individual users through their **User Profile** setting.

Feature	Subscription Mode		
	Telephony User	Telephony Plus User	Unified Communications User
one-X Portal Services	–	–	✓

Table continues…

Feature	Subscription Mode		
	Telephony User	Telephony Plus User	Unified Communications User
Telecommuter options	–	–	✓
UMS Web Services	–	–	✓
TTS for Email Reading	–	–	✓
Remote Worker	✓	✓	✓
Avaya Workplace Client	–	✓[1]	✓
WebRTC	–	–	✓
Mobility Features	–	–	✓

- By default, users on a new or defaulted system are configured a **Telephony User** users.
- Users without a subscription are shown as **Non-licensed User** and cannot use any system features.
- If there are insufficient subscriptions for the number of users configured to a particular profile, some of those users will not receive any services. On suitable Avaya phones, they display as logged out and an attempt to log in displays a no license available warning.

1. Only supports Avaya Workplace Client basic mode (telephony and local contacts only).

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Application Subscriptions

The following application subscriptions can be ordered for a IP Office subscription system:

Subscription	Description
Receptionist Console	This subscription is used to enable the IP Office SoftConsole application to answer and redirect calls. The number of subscriptions allows the matching number of users to be configured as IP Office SoftConsole users. Those users still require a user subscriptions for their telephone connection (IP Office SoftConsole is not a softphone).
Avaya Call Reporter	This subscription enables support for the Avaya Call Reporter application, hosted on a separate server.
Avaya Contact Center Select	This subscription enables support the Avaya Contact Center Select (ACCS) service hosted on a separate server.

Table continues…

Subscription	Description
Media Manager	This subscription enables support for Media Manager. This can either be locally hosted on an IP Office Application Server or provided centrally by the same cloud-based servers providing the system's subscriptions. In either case: • A local Voicemail Pro service running on an IP Office Application Server is used to do the actual recording. • The recordings are then collected by the Media Manager service for archiving. • This option is not supported if using voicemail provided by a Unified Communications Module.
Third-Party CTI	This subscription enables support for CTI connections by third-party applications. This includes DevLink, DevLink3, Third-party TAPI and TAPI WAV.

Related links

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Customer Operations Manager (COM)

IP Office subscription services are a set of cloud-based services provided by Avaya to support IP Office subscription systems. A separate set of these services is provided for each geographic region to support Avaya business partners and their customer systems in that region.

The key service is Customer Operations Manager (COM). COM provides:

- Subscriptions to the IP Office systems.
- Displays the status of the IP Office systems and information about current alarms, type of system, software level.
- Each business partner has an account that allows them to access COM but only see their own customer's systems. They can create additional COM user accounts and control which of their customer systems those accounts can see.
- Avaya have access to COM for their support staff in order to manage the COM services and to assists business partners when required.
- COM can provide the files used to customize various features such as phone background and screen saver images. This can be configure to provide common files to all the business partner's systems or individual files to individual end-customer systems.
- COM can act as the file server for firmware files used by Vantage phones and Avaya Workplace Client.
- For full documentation of COM, refer to the Using Customer Operations Manager for IP Office Subscription Systems manual.

Additional Support Features

A number of additional support services can be enabled through settings in the IP Office system configuration.

Feature	Description
Remote Backup/ Restore	Subscription systems can automatically upload daily backups to the cloud. In addition, COM operators can perform both manual backups and restores operation
Remote Upgrade	Avaya provide COM with updated IP Office software images. COM operators can use these to perform immediate or scheduled system upgrades.
Log File Collection	Subscriptions systems can automatically upload all available log files to the cloud each day.
Centralized Management	Administrator connections for IP Office Web Manager, SysMonitor and System Status Application can be routed through COM to the customer's IP Office systems. The connects use the TLS tunnel used for the subscriptions.
Remote Access	Connections for HTTPS and SSH/SFTP connection can also be routed through COM to the customer IP Office systems. The connects use the TLS tunnel used for subscription.
Co-located Servers	When remote access is enabled, access to other servers and services on the same network as the customer IP Office system can be enabled. That includes access to non-IP Office servers and services subject to their own authentication.

Related links

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Subscription Connection Operation

The connection between the IP Office and COM operates are follows:

Outgoing Connection

For the connection from the IP Office to COM:

- The destination is a single static IP address resolved by DNS of the subscription server address entered during the system's initial configuration.
- The IP Office alternates between TCP ports 443 and 8443 until successful.
- The link uses the HTTP 'WebSocket' protocol and TLS 1.2 with mutual authentication.
- The link carries a regular heartbeat, subscription information and basic details of the IP Office system (type of servers and software version).
- All other traffic on the link is controlled by the IP Office system settings; there are no access controls elsewhere.
- If the link is interrupted, the IP Office system goes into a 30-day error mode with daily alarms.
  - If connection to the subscription server is lost, the IP Office system continues running with the existing subscription entitlements it has received for 30-days.
    - During the error mode period, all operations and features are unaffected. The system outputs daily alarms in the system logs.
    - Successful reconnection clears the alarms and error mode.
    - If the 30-day error mode period expires, all subscription features and telephony are deactivated.

- If when connected, any subscriptions expire, the feature or features associated with the expired subscriptions cease operation immediately.
- • The person responsible for ordering subscriptions must ensure that they are aware of subscription expiry dates. They must renew subscriptions in a timely manner, including time for renewal orders to be processed.

Incoming Connection

All incoming traffic from COM is routed to the IP Office through the existing subscription connection established above. It should not require any additional configuration on the customer network if the system has successfully obtained it subscriptions.

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Subscription Network Requirements

In order to obtain its subscriptions and to be remotely monitored and managed through COM , the IP Office systems requires the following:

<table>
<tr><th>Feature</th><th>Description</th></tr>
<tr><td>Subscription details</td><td>Details of the customer ID and subscription server address are provided by email. Those details are entered during the system's initial configuration.
• For an IP500 V2 SCN, each IP500 V2 requires a License Server Link.
• For a Server Edition deployment, only the Primary server has a License Server Link.</td></tr>
<tr><td>Internet access</td><td>The system needs to be able to access the external internet. This is normally achieved during initial configuration of the system by entering the default gateway address of the outgoing router on the customer network.
• That value is used to configure an default IP route in the system configuration with the following settings:
<table>
<tr><th>IP Route Setting</th><th>Value</th></tr>
<tr><td>IP Address</td><td>0.0.0.0</td></tr>
<tr><td>IP Mask</td><td>0.0.0.0</td></tr>
<tr><td>Gateway IP Address</td><td>The address of the external network router on the customer network</td></tr>
<tr><td>Destination</td><td>The IP Office LAN interface (LAN1 or LAN2) which is connected to the customer network.</td></tr>
</table>
• Maximum round trip delay 200ms.
• Minimum connection bandwidth 128kbits/s.
• If the customer firewall or router controls the ports used for outgoing internet access, ensure that outgoing HTTPS traffic on TCP ports 8443 and 443 are allowed.</td></tr>
</table>

Table continues…

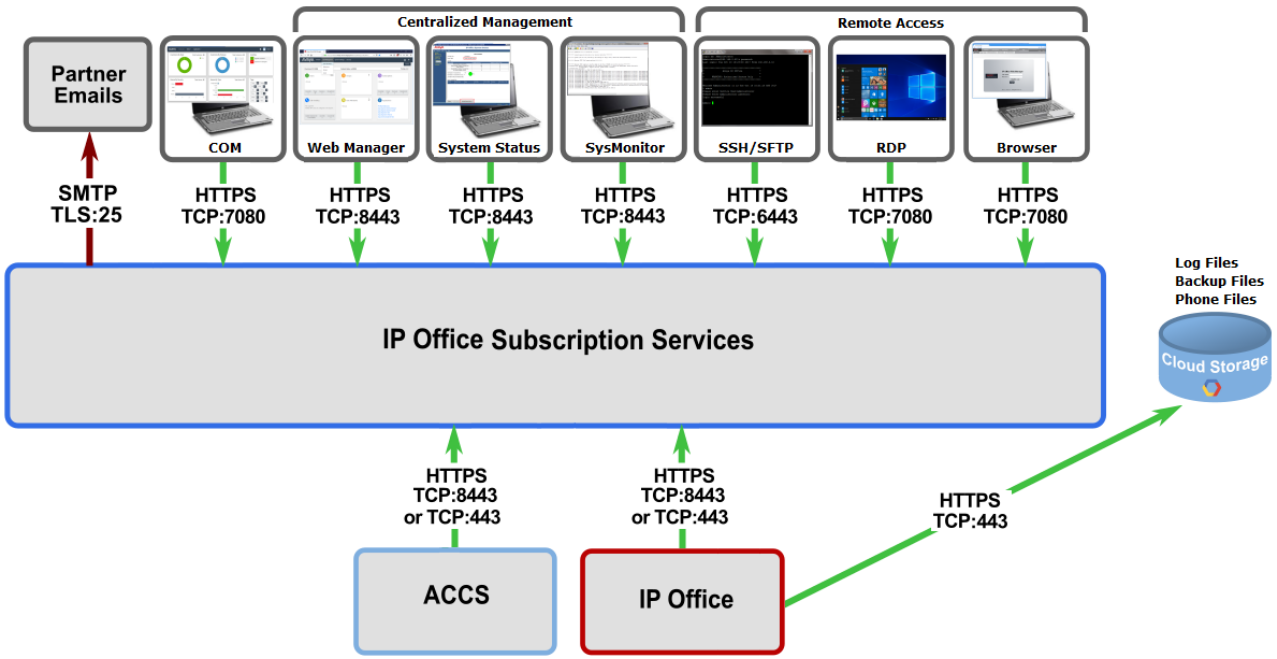
Feature	Description
DNS Service	The address of the customer's DNS server or service. If the customer does not have a specific DNS service, then use 8.8.8.8. If the customer has their own DNS server: • Ensure that it is configured to allow external access to addresses in the `avaya-sub.com` domain. That domain is used to the COM servers that support subscription systems in various geographic regions. For example: `admin.uk1.avaya-sub.com`. • Ensure that it is also configured to allow external access to storage.googleapis.com. This address is used for subscription features that require access to file storage.
Time source	Subscriptions requires an accurate time source. The recommendation is to use the Google time service at `time.google.com`. The system's time zone should also be set correctly.
COMAdmin Security User	The connection from the system to COM uses the security settings of the COMAdmin service user account in the IP Office system's security settings. This account is created by default on new and default systems.

Related links

Subscriptions on page 17

Subscription Mode Ports

The following schematic shows the ports used for connections to and from the subscription service running on COM.



Related links

Subscriptions on page 17

Migrating Existing IP Office Systems to Subscription Mode

The process for migrating an existing IP Office Essential Edition or Preferred Edition system to IP Office system is can be performed by rerunning the initial configuration menu. The assumed mapping of existing user profiles to their subscription equivalents is as follows:

Essential/Preferred Edition Mode	Subscription Mode
Non-Licensed User	Non-Licensed User
Basic User	Telephony User
Mobile User	
Office Worker	UC User
Power User	

Related links

Subscriptions on page 17

Part 2: Server Software Installation

Chapter 3: Server Software Installation

The following stages outline installing the software for a Linux-based IP Office server.

- This is a general process for all types of IP Office server, that is - primary, secondary, expansion and application server. The server's specific role is selected during the final ignition stage.
- If using a pre-built IP Office server, proceed directly to software ignition (see Igniting the server on page 33) using the default IP address settings (see Default parameters on page 12),

Network Installation

If the server is intended to be part of a network of IP Office servers, then install the servers in the following order:

1. Primary server
2. Secondary server (if required)
3. Expansion servers

Related links

Checking the server BIOS settings on page 26
Adding and Configuring Additional Hard Disks on page 27
Downloading the Software on page 28
Creating a bootable USB key on page 29
Installing the software manually on page 30
Installing the software automatically on page 32
Igniting the server on page 33

Checking the server BIOS settings

The IP Office installation software is a 64-bit images that requires UEFI boot support, with secure boot disabled. You must check those values and settings in the server BIOS before installing the IP Office software.

1. Access the server BIOS settings following the instructions for the Avaya Solutions Platform being used. For example, on a Dell R260 or R660 based server:
   a. Power on the server and press F2.

b. Select **System Setup** > **System BIOS**.

2. Select the **SATA Settings** menu:
   a. Check that the **Embedded SATA** setting is set to **ACHI Mode**.
   b. Check that **Write Cache** is **Enabled**.
   c. Press **Esc** to exit the menu.
3. Select the **Boot Settings** menu:
   a. Check that **Boot Mode** is set to **UEFI**.
   b. Select **UEFI Boot Settings** and check the order of boot devices is as required.
   c. Press **Esc** to exit the menu.
4. Select the **System Security** menu:
   a. Check that the **Secure Boot** is disabled.
   b. Press **Esc** to exit the menu.
5. Press **Esc** to exit the BIOS menus and when prompted, save the new option.

Related links

Server Software Installation on page 26

Adding and Configuring Additional Hard Disks

The server running Media Manager must include an additional hard disk or disks. That additional hard disk is used to store the call recordings collected by Media Manager and must be separate from the disk used by the other IP Office services including Voicemail Pro.

- This applies on the primary server for IP Office Server Edition/Select systems or when using an IP Office Application server to support an IP500 V2.
- If the additional disk is added after initial server configuration, see the Administering Avaya IP Office™ Platform Media Manager manual for details of initializing the disk.

For R11.1 FP2 and higher, a separate hard disk in not required for Media Manager in the following scenarios:

- For local Media Manager, the application can be configured to use the customer's own cloud storage as it primary store for call recordings. See the Administering Avaya IP Office™ Platform Media Manager manual.
- Subscription mode systems can use a centralized Media Manager service. That uses cloud storage provided by the Avaya COM service providing the system subscriptions.

If using an additional hard disk for local Media Manager:

- It is strongly recommended that a pair of additional hard-disks are used, configured in the server BIOS to act as a RAID1 pair.
- These additional drives should be added and configured before installation of the IP Office software. Details of the additional drive are set as part of the IP Office server ignition.

- The exact process of adding and/or configuring the additional drive for Media Manager use depends on the server being used. Refer to the documentation for the particular server platform.

Related links

Server Software Installation on page 26

Downloading the Software

Avaya makes IP Office software for each IP Office release available from the Avaya support website (https://support.avaya.com) :

Software	Description
ISO Image	This ISO file is used for the installation of physical Linux-based IP Office servers. It is also used for upgrading existing servers. • Ensure that you download the ISO file prefixed with `abe` and the required version of IP Office.
Rufus	For Release 12.1 and higher, you must use the Rufus to create IP Office USB keys. You can download Rufus from https://rufus.ie.
Text-to-Speech Languages ISO Images	No TTS languages are installed by default. This set of 3 ISO files contain the files from which the TTS services for different languages can be installed if required.
IP Office Administration Suite	This ZIP file contains the installation package for a number of applications required for the installation and maintenance of IP Office systems; IP Office Manager, SysMonitor and System Status Application. Avaya expects anyone installing an IP Office server to be familiar with the use of these applications.

To download Avaya software

1. Browse to https://support.avaya.com and log in.
2. Select **Support by Product** and click **Downloads**.
3. Enter `IP Office` in the **Enter Product Name** box and select the matching option from the displayed list.
4. Use the **Choose Release** drop-down to select the required IP Office release.
5. The page lists the different sets of downloadable software for that release. Download the software packages listed above.
6. The page displayed in a new tab or windows details the software available and provides links for downloading the files.
7. Also download the documents listed under the **RELATED DOCUMENTS** heading if shown.

Related links

Server Software Installation on page 26

Creating a bootable USB key

You can install and upgrade IP Office Server Edition using a USB key.

Related links

Server Software Installation on page 26
Downloading the USB software on page 29
Creating a USB Drive using Rufus on page 29

Downloading the USB software

Creating a USB drive for software installation or upgrade requires the following software from the Avaya support site. See Downloading the Software on page 28.

Software	Description
ISO image	This ISO file is used for the installation of physical Linux-based IP Office servers. It is also used for upgrading existing servers. • Ensure that you download the ISO file prefixed with `abe` and the required version of IP Office.
Rufus	For Release 12.1 and higher, you *must* use the Rufus to create IP Office USB keys. You can download Rufus from https://rufus.ie.

Related links

Creating a bootable USB key on page 29

Creating a USB Drive using Rufus

About this task

This process uses Rufus to create a USB key for IP Office software installation or upgrading.

Before you begin

- You need a USB drive with at least 8GB storage space.

Procedure

1. Insert the USB memory key into t PC.
2. Start Rufus.
3. Use the **Device** field to select the USB memory key.
4. Next to the **Boot selection** field, click **SELECT** and select the ISO file. Ensure that you select the correct `iso` file. For PC servers, the file name is prefixed with `abe` followed by the software version.
5. Select the following other options:
   a. **Volume label** - Change this to **AVAYA** with no quotation marks.
   b. **File System** - Leave this as **Large FAT32**.

6. Click **Start**.
7. Select **Write in ISO Image** mode and click **OK**.
8. If Rufus displays a message about downloading `ldlinux.sys` and `ldlinux.bss` files, select **Yes**.
9. When Rufus displays a warning about the process erasing all existing data, click **OK**.
10. The progress of the unpacking of the ISO file onto the USB memory key is displayed. Allow this process to continue without any interruption. It takes approximately 4 to 10 minutes depending on the size of the USB memory key.
11. When Rufus has completed the process and shows `READY`, click **CLOSE**.
12. Open the USB memory key in file manager.
13. Open the USB folder.
    - **For an installation key:**
      - Copy and paste the `avaya_autoinstall.conf` and `syslinux.cfg` files to the root folder of the USB memory key.
    - **For an upgrade key:**
      - Copy and paste the `avaya_autoupgrade.conf` and `syslinux.cfg` files to the root folder of the USB memory key.
      - **! WARNING**

        Do not copy any other files. Copying any other files will cause the USB to run a new install, erasing all existing files on the server.
14. The USB memory key is now ready for use.

Related links

Creating a bootable USB key on page 29

Installing the software manually

This process covers installing the server software from a bootable USB key configured to **Server Edition – Attended Mode**.

⚠ Warning:

- This process will erase all existing software and data on the server.

Before you begin

- Create the bootable installation media: See Creating a bootable USB key on page 29.

Procedure

1. Attach a monitor and keyboard to the server.

2. Insert the bootable USB key into the server.
3. Start the server.
4. On a Dell R260 or R660 based server, access the **One Time Boot Menu** by pressing **F12** when you see the Dell logo. In the menu:
    a. Use the cursor keys to select the USB memory key.
    b. Press **Enter** to start a boot from the USB memory key.
5. A series of text messages are displayed and then a *"Welcome to Avaya R12"* menu.
6. Select the language you want used for the installation menus and click **Continue**.
7. Read the **EULA** (end-user license agreement). If you accept it, click **Continue**.
8. Read the **Release notes** and click **Continue**.
9. The **Installation Summary** menu is displayed.
10. Click **Keyboard**:
    a. Check that the correct keyboard type is shown at the top of the list. If necessary, use the +/– icons to add/remove keyboard layouts and the ^/v icons to shuffle the order of listed keyboard layouts.
    b. Click **Done**.
11. Click **Installation Destination**:
    a. Check that the servers primary hard disk is selected.
    b. Click **Done**.
12. Click **Root Password**:
    a. Enter and confirm a temporary password for the root account. This does not need to be a strong password as the IP Office will force you to change it again during a later stage of the installation. However, note the temporary password as you will need it to start the server ignition process.
    b. When completed, press **Done**.
13. Click **Network & Host Name**:
    a. In the **Host name** field, enter the host name for the server. Click **Apply**.
    b. Select the **Ethernet (eth0)** port.
    c. Ensure that the port is enabled.
    d. Click **Configure**.
    e. Set the IP address details to match the values the server must use on the customer network.
        - Avaya does not support setting IPv6 addresses before IP Office server ignition. For IP Office administration, you must set and use an IPv4 address. If you require an IPv6 address for the IP Office, you can set the address during or after IP Office server ignition.

f. If separate, enter the networks **DNS server**.
g. Click **Save**.
h. Repeat the process for the **Ethernet (eth1)** port is present.
i. Click **Done**.

14. Click **Begin Installation**.
15. The next stage takes approximately 30 minutes as the software is installed.
16. When the `Complete!` message is shown, remove the USB memory key used for the installation.
17. Click **Reboot System**.
18. The reboot is completed when the server displays address details and an **Command:** prompt.

Next steps

- You can now ignite the server. See Igniting the server on page 33.

Related links

Server Software Installation on page 26

Installing the software automatically

You can use a USB key to install the IP Office software automatically with a set of default settings, see Default parameters. on page 12. You can still observe the process of installation using a monitor attached to the server.

⚠ Warning:

- This process will erase all existing software and data on the server.

Before you begin

- Create a USB key set to auto-install the IP Office software. See Creating a USB Drive using Rufus on page 29.
- Directly connect a laptop to the server's first network port. You must configured the PC with an IP address such as 192.168.42.203/255.255.255.0. This allows configuration and ignition of the server before you connect it to the customer network.

Procedure

1. Attach a monitor and keyboard to the server.
2. Connect the laptop and check that the server is not currently connected to the network.
3. Insert the USB key into the server.
4. Start the server.

5. On a Dell R260 or R660 based server, access the **One Time Boot Menu** by pressing **F12** when you see the Dell logo. In the menu:
   a. Use the cursor keys to select the USB memory key.
   b. Press **Enter** to start a boot from the USB memory key.
6. Observer the installation as it progresses.
7. Remove the bootable media used and select **Continue**.
8. Following the reboot, a series of text messages are shown as the various services are checked and started.
9. Eventually a screen with the message IP Office Server Edition is displayed, along with the server's IP address.
10. You can now ignite the server for its intended IP Office role. See Igniting the server on page 33.

Next steps

- The server now needs to be ignited. See Igniting the server on page 33.

Related links

Server Software Installation on page 26

Igniting the server

About this task

Each server needs to be go through a server ignition process. During this process, the server's particular role is configured and key settings are set.

- To perform ignition, you need the current IP address of the server. That is shown on the monitor connected to the server.
  - For servers supplied pre-installed by Avaya or installed using automatic USB installation, the address is `192.168.42.1/255.255.255.0`.
- Ignition is performed by browser from another PC.
- You can only run the ignition process once. To rerun the process requires a complete software reinstall.
- If the Ignition process is not completed, for example if you click **Cancel**, the system displays the Ignition menu when you next login.

Procedure

1. On a PC on the same network as the server, open a web browser.
2. Enter the address `https://<Server_IP_Address>:7070`.

3. Because the browser does not have a copy of the server's root certificate, it displays a warning regarding an unsafe connection.
   - You can ignored this at this stage. Proceed with connecting your browser.
   - Following ignition, you can download the server certificate and add it to the certificate repository used by the browser.
4. Note the **WebLM ID** and **PLDS ID** values displayed on the logging menu. These are required for licensing or subscription of the server.
5. Login to the server. The password depends on how the software was installed:
   a. In the **User Name** field, enter `root`.
   b. In the **Password** field, enter one of the following:
      - If you installed the software manually, use the password you specified during that process.
      - If the software was installed automatically, use the password `Administrator`.
   c. Click **Login**.
6. The server displays the **Accept License** menu. Click **I Agree** and click **Next**.
7. The server displays the **Server Type** menu. Select the particular IP Office role the server will perform:

Server Type	Description
Primary (Server Edition)	If setting up an IP Office network, this is the first type of server that must be added to the network.
Secondary (Server Edition)	This type of server supports the same services as the primary and can temporarily take overs its role in some situations (known as “resilience”).
Expansion (Server Edition)	This type of server can be used to support additional IP telephony services in a primary server’s network.
Application Server	This type of server can be used in a number of ways: • Within a primary server network, it can be used to host the Avaya one-X Portal application service (removing it from the primary). This can be used when the primary is hosted on a lower specification server. • For an IP500 V2 system with a Unified Communications Module installed, it can be used to replace the modules Avaya one-X Portal service. This option increases the number of voicemail ports and users supportable by the Unified Communications Module. • An application server can also be ignited with no user services and then used as a backup server for other servers.

8. Select the required server role and click **Next**. The following menus vary depending on the selected role.
9. The server displays the **New Hardware** menu. This contains details if any additional hard drive installed in the server. This is required for a primary or application server supporting

the Media Manager application. If the server has an additional drive, check the following steps. Otherwise click **Next**:

a. For a new server, select **Format Hard Drive**. Only select this if you are sure that all data on the hard drive should be erased. For example, do not select it if reigniting the server as part the process to recover a failed server.

b. Select **Mount Hardware**.

c. Leave all the other settings at their defaults unless you have a specific reason to be otherwise. Note the **Mount Point** path settings. You need this as part of the Media Manager application configuration.

d. Click **Next**.

10. The server displays the **Configure Network** menu:

    a. Ensure that the **Hostname** is unique within the network domain. It can be a string of characters 63 characters in length. The characters can be upper-case or lower-case letters A through Z, digits 0 through 9, the minus sign (-), and the period (.).

    b. Check that the settings match those required for the customer network.

    c. Click **Next**.

11. The server displays the **Time & Companding** menu:

    Important:

    - An accurate time source and settings are vital to many functions, including subscriptions and any services that use certificates.

    a. Select **Use NTP Client** and set the **Timezone**.

    b. On server's that support telephony operation, select the **Companding** mode.

    - **µ-law** is typically used for North America and Japan.
    - **A-law** is used for Europe and other parts of the world.

    c. Click **Next**.

12. The server displays the **Change Password** menu. Set the passwords as required. If igniting a server for addition to a network of servers, set passwords that match those used on the network's primary server.

Option	Description
'root' and 'security' password	This sets the initial password of both the Linux `root` user account and the IP Office security administrator. • After ignition, the passwords for these accounts can be changed separately.
'Administrator' password	This sets the initial password of both the Linux and IP Office `Administrator` user accounts. • After ignition, the passwords for these accounts can be changed separately.
'System' password	This sets the system password of the IP Office system.

Set the passwords as required and click **Next**.

13. On an IP Office Application server, the server displays a **Configure Services** menu:
    a. Select the services that the application server should provide. The voicemail service is only supported when using the application server to support an IP500 V2 system.
    b. Click **Next**.
14. On a primary or application server, the server displays the **Security** menu:
    a. Select whether to upload a certificate for the server or to let the server generate a self-signed certificate.
    b. Select whether you want the server to support the Avaya EASG server. Enabling EASG is a requirement for systems included in an Avaya IPOSS support contract.
    c. Click **Next**.
15. The server displays the **Review Settings** menu:
    a. Check that the settings are correct. Use the **Back** control if necessary to change or correct any of the settings.,
    b. Use the certificate links to download copies of the server's certificate file.
    c. When satisfied with the settings, click **Apply**.

Next steps

You can now proceed to the initial configuration of the server. The process depends on the selected server role:

- **Primary Server:** See Primary Server Installation and Initial Configuration on page 38.
- **Secondary Server:** See Secondary Server Installation and Initial Configuration on page 68.
- **Expansion Server:** See Expansion Server (Linux) Installation and Initial Configuration on page 76.
- **Application Server:** See Application Server Installation on page 92.

Related links

Server Software Installation on page 26

Part 3: Primary Server Installation

Chapter 4: Primary Server Installation and Initial Configuration

Once the server software has been installed (see Server Software Installation on page 26) and the server ignited as a primary server, it can be configured using the processes in this section.

This section only covers the minimal configuration to have the server licensed and operation. Full configuration to match the customer requirements is covered in the documentation for the IP Office Manager and Web Manager applications.

You can perform the initial configuration using either IP Office Manager or Web Manager.

Related links

Primary server initial configuration using Web Manager on page 38
Primary server initial configuration using IP Office Manager on page 40

Primary server initial configuration using Web Manager

This process uses IP Office Web Manager to perform the initial configuration of the primary server.

Before you begin

- Ignite the server as a primary server. See Igniting the server on page 33.

Procedure

1. On a PC on the same network as the server, start a web browser. Enter `https://<Server_IP_Address>:7070`.
2. Enter `Administrator` and the password set for that user during the server ignition process.
3. In the **Agreement** menu, select **Accept** and click **OK**.
4. If the server displays a background synchronization warning, click **Yes**.
5. The server displays the dashboard. If not, select **Solution** > **Server Menu** > **Dashboard**.
6. Click on the **System** widget.
7. In the **System Mode**, select one of the following:

System Mode	Description
Server Edition	Select this option for a primary server that will use a PLDS file for licensing.
Server Edition - Select	Select this option for a primary server that will use a PLDS file for licensing that includes Select licenses. Note that if in a network, all servers in the network requires a Select license.
Server Edition - Subscription	Select this option for a primary server that will use subscriptions for licensing.

8. Set a unique **System Name** for the system. This will appear in other administration menus and helps identify the particular server.
9. If applicable, enter the **Services Device ID** issued for support of the server.
10. Set the **Locale** to match the customer location. Set this accurately as it affects a number of default telephony settings that the system will then use.
11. Set and confirm the **Default Extension Password**. This is used to set the extension password required to register IP extension unless a separate specific password is configured in the extension's own settings.
12. For a **Server Edition - Subscription** system, a section for entry of the **Subscription System Details** is displayed. Enter the details supplied in the email provided after the primary server's PLDS ID was registered for subscription:

Setting	Description
System ID	This field is not changeable. However, check that it matches the details shown in the system's subscription email.
Customer ID	Enter the customer ID provided in the system's subscription email.
License Server Address	Enter the address provided in the system's subscription email.

13. Using the **Public LAN Interface** control:
    a. Select **LAN1** and check that the **IP Address** and **IP Mask** match the network settings that the server should use for its eth0 port.
    b. Select which **DHCP Mode** the server should support on the LAN.

Option	Description
Server	The server will act as a DHCP server for the network on that interface. For its own address it will use the IP Address details entered in this menu.
Client	The server will obtain its IP address settings automatically from a DHCP server elsewhere on the network.
Dial In	This DHCP mode is not supported on Linux-based IP Office servers.
Disabled	The server will use the fixed IP address details entered in this menu.

    c. Select **LAN2** and check that the **IP Address** and **IP Mask** settings match the network settings that the server should use for its eth1 port.

d. Set the **Gateway** address for the customer network.

14. Having set and checked the IP address and DHCP details, select which port, **LAN1** or **LAN2**, will be used for outgoing connections from the customer network for general internet access. This choice adds a default IP route from that LAN to the specified **Gateway** address.
15. Enter the IP address of the **Server Edition Primary**.
16. For **Server Edition Secondary**, enter the IP address of the planned secondary server. If there is no plan to add a secondary server, enter a dummy address.
17. If the customer network has a specific **DNS Server**, enter its address.
18. Enter an **Web Socket Password** password. This password is used for the links to other IP Office servers in the network.
19. Check the settings are all as required and match the customer network requirements.
20. Click **Apply**.
21. Work through the other widgets on the dashboard and configure the system as required, see The Setup Wizard/Initial Configuration on page 43.
22. Click **Save to IP Office** shown at the top of the browser window.
23. The **Save IP Office Configuration** menu is preset to save the new settings and restart the server. Select the server and click **OK**.

Next steps

Having completed the primary server's initial configuration:

- For non-subscription mode systems, proceed to adding the PLDS license file. See Adding the PLDS License File on page 64.
- For subscription mode systems, check the subscriptions have been received and enable the **COMAdmin** service user account. See Subscription and COM Support Setup on page 60.

Related links

Primary Server Installation and Initial Configuration on page 38

Primary server initial configuration using IP Office Manager

This process uses IP Office Manager to perform the initial configuration of a primary server.

Before you begin

- Ignite the server as a primary server. See Igniting the server on page 33.

Procedure

1. Start Manager. See Starting IP Office Manager on page 147.
   a. Click **File** > **Open Configuration**.
   b. From the **Select IP Office** menu, select the primary server and click **OK**.
   c. Enter `Administrator` and the password configured for that user account during the primary server's ignition. Click **OK**.
2. Manager is reloaded and the initial configuration utility (ICU) menu for a new server is displayed.
3. In the **System Mode**, select one of the following:

System Mode	Description
Server Edition	Select this option for a primary server that will use a PLDS file for licensing.
Server Edition - Select	Select this option for a primary server that will use a PLDS file for licensing that includes Select licenses. Note that if in a network, all servers in the network requires a Select license.
Server Edition - Subscription	Select this option for a primary server that will use subscriptions for licensing.

4. Set a unique **System Name** for the system. This will appear in other administration menus and helps identify the particular server.
5. Set the **Locale** to match the customer location. Set this accurately as it affects a number of default telephony settings that the system will then use.
6. Set and confirm the **Default Extension Password**. This is used to set the extension password required to register IP extension unless a separate specific password is configured in the extension's own settings.
7. For a **Server Edition - Subscription** system, a section for entry of the **Subscription System Details** is displayed. Enter the details supplied in the email provided after the primary server's PLDS ID was registered for subscription:

Setting	Description
System ID	This field is not changeable. However, check that it matches the details shown in the system's subscription email.
Customer ID	Enter the customer ID provided in the system's subscription email.
License Server Address	Enter the address provided in the system's subscription email.

8. Using the **Public LAN Interface** control:
   a. Select **LAN1** and check that the **IP Address** and **IP Mask** match the network settings that the server should use for its eth0 port.
   b. Select which **DHCP Mode** the server should support on the LAN.

Option	Description
Server	The server will act as a DHCP server for the network on that interface. For its own address it will use the IP Address details entered in this menu.
Client	The server will obtain its IP address settings automatically from a DHCP server elsewhere on the network.
Dial In	This DHCP mode is not supported on Linux-based IP Office servers.
Disabled	The server will use the fixed IP address details entered in this menu.

c. Select **LAN2** and check that the **IP Address** and **IP Mask** settings match the network settings that the server should use for its eth1 port.

d. Set the **Gateway** address for the customer network.

9. For **Server Edition Secondary**, enter the IP address of the planned secondary server. If there is no plan to add a secondary server, enter a dummy address.
10. If the customer network has a specific **DNS Server**, enter its address.
11. Enter an **Web Socket Password** password. This password is used for the links to other IP Office servers in the network.
12. Check the settings are all as required and match the customer network requirements.
13. Click **Save**. The server's configuration is opened in manager. At this stage it has not been saved to the system.
14. Click **File** > **Save Configuration**
15. Check that the **Change Mode** is set to **Reboot** and click **OK**.
16. Click **Next**. The IP Office service on the server is restarted using the new configuration.

Next steps

Having completed the primary server's initial configuration:

- For non-subscription mode systems, proceed to adding the PLDS license file. See Adding the PLDS License File on page 64.
- For subscription mode systems, check the subscriptions have been received and enable the **COMAdmin** service user account. See Subscription and COM Support Setup on page 60.

Related links

Primary Server Installation and Initial Configuration on page 38

Chapter 5: The Setup Wizard/Initial Configuration

IP Office Web Manager displays the setup wizard when it connects to a new IP Office server for the first time (except IP Office Application Server and Unified Communications Module). The setup wizard consists of a number of panels, each of which you can use to configure a different area of the IP Office server configuration.

- Click on a panel to access its settings.
  - On a new IP Office system, you can only access the panels is sequence, starting with the **System** panel.
  - After you have configured the settings in a panel, the panel displays a summary of those settings and you can access the next panel.
  - After you have configured the settings within a panel, you can return to it at any time.
- Some of the panels alter settings that require an IP Office system reboot. Therefore, on a new server the setup wizard run in offline mode. When completed, clicking **Save to IP Office** applies the settings and restarts the IP Office.
- The **System** panel is also call the **Initial Configuration Utility** (ICU).
  - On system's that have already completed initial configuration, you can return to this menu using ☰ > **Initial Configuration** (IP500 V2: **Actions** > **Initial Configuration** for IP500 V2).
- On standalone IP500 V2 systems, IP Office Web Manager displayed the panels as the system's **Solution** display and as the dashboard (**Solution** > **Server Menu** > **Dashboard**).

Related links

Setup Wizard: Panels Summary on page 44
Setup Wizard: System Panel (Initial Configuration Utility) on page 45
Setup Wizard: VoIP on page 49
Setup Wizard: Voicemail on page 53
Setup Wizard: Subscription on page 55
Setup Wizard: Licensing on page 56
Setup Wizard: User on page 56
Setup Wizard: Groups on page 56
Setup Wizard: Lines on page 57
Setup Wizard: Incoming Call Routes on page 57
Setup Wizard: Outgoing Call Routes on page 58

Setup Wizard: Panels Summary

The following tables provide a brief summary of the role of each panel. It also indicates their availability which may depend on other settings or the type of IP Office server.

Panel	Description
System	Configure general system settings such as IP Office mode, locale and IP addresses.
VoIP	Configure the system's settings for H.323 and SIP telephony.
Voicemail	Configure the system's use of voicemail to handle unanswered and missed calls.
Licensing	Configure the system PLDS license settings and upload a license file. This panel is not shown on IP Office subscription systems.
Subscription	Display details of the system subscription settings and subscriptions. This panel is only shown on IP Office subscription systems.
Users	Configure the system users.
Groups	Configure groups of users. Each group has its own extension number which allows it to be used as the destination for calls.
Lines	Configure external telephone lines.
Incoming Call Routes	Configure the destination for incoming external calls based on the lines being used and the incoming telephone number.
Outgoing Call Routes	Configure the settings applied to outgoing external calls by default and for particular users if required.

Panel	Server Edition		IP500 V2
	Primary Secondary	Expansion	
System	✓	✓	✓
VoIP	✓	×	✓
Voicemail	✓	×	✓
Licensing	✓	×	✓
Subscription	✓	×	✓
Users	✓	×	✓
Groups	✓	×	✓
Trunks	✓	×	✓
Incoming Call Routing	✓	×	✓
Outgoing Call Routing	✓	×	✓

Related links

The Setup Wizard/Initial Configuration on page 43

Setup Wizard: System Panel (Initial Configuration Utility)

This is the only mandatory panel in the setup wizard. This menu is also called the **Initial Configuration** utility.

On IP Office systems that have already completed initial configuration, you can return to this menu using ☰ > **Initial Configuration** (IP500 V2: **Actions** > **Initial Configuration**).

Common Settings

Option	Description
System Mode	Sets the operating mode of the server. The options available depend on the type of server platform. For further details, refer to the appropriate IP Office deployment manual. • For Linux-based servers: - **Server Edition** - **Server Edition - Select** - **Server Edition - Subscription** • For an IP500 V2 server: - **IP Office Standard Edition** - **IP Office Subscription** - **IP Office ACO ATA Gateway** - **Server Edition Expansion** - **Server Edition Expansion - Subscription** • For an existing IP Office being reconfigured, the choice of system modes is restricted. For example, you cannot change a subscription mode system to non-subscription mode. In order display the full set of options, you must default the IP Office system configuration .
System Name	A name to identify this system. This is typically used to identify the configuration by the location or customer's company name. Some features require the system to have a name. • This field is case sensitive and within any network of systems must be unique. • Do not use <, >, |, \0, :, *, ?, . or /.
Retain Configuration Data	This option is shown for existing servers where the initial configuration menu is being rerun. • If cleared, the existing configuration of the IP Office system is defaulted. • If enabled, the existing configuration is retained. However, some elements of that configuration may be invalid or ignored. It is your responsibility to ensure that the final configuration is valid.

Table continues…

Option	Description
Locale	This setting sets default telephony and language settings based on the selection. It also sets various external line settings and so must be set correctly to ensure correct operation of the system. See Avaya IP Office Locale Settings. For individual users, the system settings can be overridden through their own locale setting (**User** > **User** > **Locale**).
Default Extension Password	Default = Existing default extension password The field provides you with option to view and edit the existing default extension password. The default extension password is set up during IP Office installation either by the administrator or is randomly generated by the system. The system generated random password is of 10 digits. Use the Eye icon to see the existing default password. The password must be between 9 to 13 digits.
Hosted Deployment	This option is only used on non-subscription Server Edition system. If enabled, it indicates that the system is a hosted deployment.
Services Device ID	This setting is shown for Server Edition servers only. The ID is displayed on the **Solution** view, **System Inventory** and on the **System** > **System** tab in the configuration. • The value can be changed using the **Device ID** field on the **System** > **System Events** configuration tab.

Subscription System Details

These details are only shown for subscription mode systems. They are used by the system to obtain its subscriptions. They details required are supplied when the system if registered for subscription.

Name	Description
System ID	This is a fixed value against which the system's subscriptions are issued and validated. • For an IP500 V2 system, this ID is based on the System SD card installed in the system.
Customer ID	The customer ID specified when the system was registered for subscriptions.
License Server Address	The address of the server which provides the system with its subscriptions.

LAN Configuration Settings

Name	Description
Public LAN Interface	Select which of the server's LAN interfaces is connected to the customer network routed to the external internet. Additional IP Route details are added to the system configuration based on this choice.
Gateway	The address of the default gateway on the customer network to which non-LAN traffic should be routed. After initial configuration, a default IP route is created, using this address and the selected **Public LAN Interface** setting.

Table continues…

Name	Description
DNS Server	The address used on the customer network for resolution of DNS queries. This is either the customer's DNS server or the DNS address provided by their internet service provider.
LAN1 CONFIGURATION/LAN2 CONFIGURATION Separate sets of LAN configuration details are shown for LAN1 and LAN2.	
IP Address	The base IP address for the LAN. The defaults are 192.168.42.1 for LAN1 and 192.168.43.1 for LAN2. If the server is acting as the DHCP server for the LAN, this is the starting address for the DHCP address range.
IP Subnet Mask	Default = 255.255.255.0. This is the IP subnet mask used with the IP address.
DHCP Mode	Select whether the server performs DHCP for the LAN. • **Server** - When this option is selected, the system will act as a DHCP Server on this LAN, allocating address to other devices on the network and to PPP Dial in users. - Devices on requesting an address are allocated addresses from the bottom of the available address range upwards. - Dial In users are allocated addresses from the top of the available range downwards. - If the control unit is acting as a DHCP server on LAN1 and LAN2, Dial in users are allocated their address from the LAN1 pool of addresses first. • **Disabled** - When this option is selected, the system will not use DHCP to get or issue IP addresses. • **Dial In** - When this option is selected, the system will allocate DHCP addresses to PPP Dial In users only. On systems using DHCP pools, only addresses from a pool on the same subnet as the system's own LAN address will be used. • **Client** - When this option is selected, the system request its IP Address and IP Mask from another DHCP server on the LAN.
Enable NAT	Default = Off. Shown for IP500 V2 systems only. This setting controls whether NAT should be used for IP traffic from LAN1 to LAN2.

Solution Settings

These settings are shown for Linux-based systems. The options vary depending on the server's role in the network (primary, secondary or expansion).

Name	Description
Server Edition Primary Server	For secondary and expansion servers, specify the address of the primary server.
Server Edition Secondary Server	For primary and expansion servers, specify the address of the secondary server.

Table continues…

Name	Description
WebSocket Password	For each of the addresses set above, a bi-directional WebSocket connection is created. A matching password must be set at each end of the line.
DNS Server	This is the IP address of a DNS Server. If this field is left blank, the system uses its own address as the DNS server for DHCP client and forwards DNS requests to the service provider when **Request DNS** is selected in the service being used (**Service** > **IP**).

Time Settings

These settings are shown for non-subscription IP500 V2 servers only. They are only shown in the IP Office Web Manager initial configuration menu.

Name	Description
Time Setting Configuration Source	An accurate time source and settings are vital to many functions, including any services that use certificates. Avaya recommend that you use SNTP and a reliable source such as `time.google.com`. • **None** Set the system date and time manually using a phone with **System Phone Rights** (**User** > **User**). • **SNTP** Use a list of SNTP servers to obtain the UTC time. The IP Office tries the addresses in the list one at a time in order until there is a response. The system makes a request to the specified addresses following a reboot and every hour afterwards. • **Voicemail Pro/Manager** *(Obsolete)* The Windows-based Voicemail Pro service and the IP Office Manager program can act as RFC868 Time servers for the IP Office system. Use of other RFC868 server sources is not supported. They provide both the UTC time value and the local time as set on the PC. The system makes a request to the specified address following a reboot and every 8 hours afterwards.
The following setting is available when the **Time Setting Configuration Source** is set to **SNTP**.	
Time Server Address	Default = Blank A list of SNTP servers the used to obtain the UTC time. • The records in the list are used one at a time until there is a response. The system makes a request to the specified addresses following a reboot and every hour afterwards.

Centralized Management

The following settings are used for IP Office systems being deployed as branch systems in a network managed using System Manager. Refer to the Deploying Avaya IP Office™ Platform as an Enterprise Branch with Avaya Aura® Session Manager manual.

Name	Description
Under Centralized Management	When selected, the additional fields below are shown.
SMGR Address	Enter the IP address of the System Manager server managing the branch network.
Redundant SMGR Address	Enter the IP address of the secondary System Manager server managing the network.
SMGR Community	The shared community name for servers within the branch network.
SNMP Device ID	The unique SNMP ID for the IP Office server within the network.
Trap Community	The public name for sending SNMP trap alarms.
SCEP Domain Certificate Name	The domain name for SCEP (Simple Certificate Enrollment Protocol) operation in the branch network.
Certificate Enrollment (SCEP) Password	The password for requesting certificates from the network's SCEP server.

Related links

The Setup Wizard/Initial Configuration on page 43

Setup Wizard: VoIP

You can use this panel to configure the H323 Gatekeeper and SIP Registrar support provided on each of the system's LAN interfaces.

LANS

Field	Description
Select LAN	Use this control to switch between configuring LAN1 or LAN2.

H.323 Gatekeeper

These settings relate to the H.323 extension support provided by the system on the currently selected LAN.

Field	Description
H.323 Gatekeeper Enable	Default = Off If enabled, the system will support H.323 trunk and extension connections on the LAN.

Table continues…

Field	Description
H.323 Signaling over TLS	Default = Disabled. For hosted deployments, default = Preferred. When enabled, TLS is used to secure the registration and call signaling communication between IP Office and endpoints that support TLS. The H.323 phones that support TLS are 9608, 9611, 9621, and 9641 running firmware version 6.6 or higher. When enabled, certificate information is configured in the `46xxSettings.txt` file on IP Office and automatically downloaded to the phone. When IP Office receives a request from the phone for an identity certificate, IP Office searches its trusted certificate store and finds the root CA that issued its identity certificate. IP Office then provides the root CA as an auto-generated certificate file named `Root-CA-xxxxxxxx.pem`. For information on IP Office certificates, see **Security** > **Certificates**. The options are: • **Disabled**: TLS is not used. • **Preferred**: Use TLS when connecting to a phone that supports TLS. • **Enforced**: TLS must be used. If the phone does not support TLS, the connection is rejected. When set to **Enforced**, the **Remote Call Signaling Port** setting is disabled. If TLS security is enabled (**Enforced** or **Preferred**), it is recommended that you enable a matching level of media security on **System Settings** > **System** > **VoIP Security**.
H.323 Remote Extn Enable	Default = Off The system can be configured to support remote H.323 extensions in the case where NAT is used in the connection path. This could be the case where the IP Office is located behind a corporate NAT/Firewall router and/or the H.323 phone is located behind residential NAT enable router. Currently, only 9600 Series phones are supported as H.323 remote extensions.
Remote Call Signaling Port	Default = 1720 The call signaling port used for remote H.323 extensions.
Auto-create Extension	Default = Off If enabled, the system will automatically create a extension entry in its configuration in respond to successful registration by an H.323 IP phone. • This setting is automatically disabled 24-hours after being enabled.
Password	Default = Blank If set, sets the password for extension registration using auto-creation. If left blank, the system Default Extension Password setting is used.

Table continues…

Field	Description
Auto-create User	Default = Off If enabled, the automatic creation of an H.323 extension entry in the system configuration also causes the automatic creation of a matching user entry for the extension.

SIP Trunks

Field	Description
SIP Trunks Enable	Default = On. This settings enables support of SIP trunks. It also requires entry of **SIP Trunk Channels** licenses. Enabling **SIP Trunks Enable** allows configuration of the **RTP Port number Range (NAT)** settings.

SIP Registrar

These setting relate to the support of SIP extensions on the selected LAN.

Field	Description
SIP Registrar Enable	Default = Off Used to set the system parameters for the system acting as a SIP Registrar to which SIP endpoint devices can register. Separate SIP registrars can be configured on LAN1 and LAN2. Registration of a SIP endpoint requires an available **IP Endpoints** license. SIP endpoints are also still subject to the extension capacity limits of the system.
Auto-create Extn/User	Default = Off. The field to set up auto creation of extensions for SIP phones registering themselves with the SIP registrar. If selected, the system prompts you to enter and confirm the password is used for subsequent auto creation of extensions. • This setting is not supported on systems configured to use WebLM server licensing. • For security, any auto-create settings set to On are automatically set to Off after 24 hours.

Table continues…

Field	Description
SIP Remote Extn Enable	Default = Off. The system can be configured to support remote SIP extensions in the case where NAT is used in the connection path. This could be the case where the IP Office is located behind a corporate NAT/Firewall router and/or the SIP phone is located behind residential NAT enable router. • This option cannot be enabled on both LAN1 and LAN2. • The use of this option and the interaction and configuration of external third party elements is beyond the scope this help file. In the case where the public IP address of the corporate router is unknown, the LAN's Network Topology settings should be used to configure a STUN Server. Enabling **SIP Remote Extn Enable** allows configuration of: • the **Remote UDP Port**, **Remote TCP Port**, **Remote TLS Port** settings • the **Port Number Range (NAT)** settings
SIP Domain Name	Default = Blank This value is used by SIP endpoints for registration with the IP Office system. SIP endpoints register with IP Office using their SIP address that consists of their phone number and IP Office SIP domain. Since IP Office does not allow calls from unauthorized entities, the SIP domain does not need to be resolvable. However, the SIP domain should be associated with FQDN (Fully Qualified Domain Name) for security purposes. The entry should match the domain suffix part of the SIP Registrar FQDN below, for example, `example.com`. If the field is left blank, registration uses the LAN 1, LAN2, or public IP address. **Note:** For Avaya SIP telephones supported for resilience, the **SIP Domain Name** must be common to all systems providing resilience.
SIP Registrar FQDN	Default = Blank The fully-qualified domain name to which the SIP endpoint send their registration requests. For example, `sbc.example.com`. • This FQDN is also used for **Avaya Cloud Services** and **Avaya Push Notification Services** The customer DNS must resolve this FQDN to an IP address that routes to the IP Office. That is: • For local extensions, the IP address of the IP Office LAN. • For remote extensions, the external IPv4 address of the Avaya SBC or customer firewall that routes to the IP Office.

Related links

[The Setup Wizard/Initial Configuration](#) on page 43

Setup Wizard: Voicemail

Voicemail

Name	Description
Voicemail Type	Sets the type of voicemail service used by the system. The options supported depend on the type of IP Office system. • **Server Edition Systems** These systems are supported by **Voicemail Pro** running on the primary server. All other servers in the Server Edition network should be set to **Centralized Voicemail**. • **Standalone IP500 V2 Systems** These can support a range of options: - **Voicemail Pro** - Use the Voicemail Pro service provided by an IP Office Application server. - **Centralized Voicemail** - In an SCN network of IP500 V2 systems, only the Voicemail Pro server associated with one IP500 V2 system holds the messages and recording (the centralized voicemail server). All other systems should be set to **Centralized Voicemail** or **Distributed Voicemail**. - **Embedded Voicemail** - Use the voicemail service provided internally by the system itself. This uses the system's System SD card to store messages and prompts. - **Group Voicemail** - Used with some 3rd-party voicemail services. - **Distributed Voicemail** - In an SCN network of IP500 V2 systems, only the Voicemail Pro server associated with one IP500 V2 system holds the messages and recording (the centralized voicemail server). However, the other IP500 V2 systems can be associated with their own Voicemail Pro server which handles that systems calls. - **Analog Trunk MWI** - Use voicemail provided by the analog trunk provider. - **Voicemail Pro on UC Module** - Use the Voicemail Pro service provided by a UCM module installed in the IP500 V2 control unit. • Only select this option is the module is already installed and fully configured. Otherwise, select **Voicemail Pro**. The settings are automatically changed during the configuration of the UCM module.
Voicemail IP Address	Default = Primary Server IP Address The IP address of the server hosting the voicemail service for the IP Office system.

Hold Music

This section is used to define the source for the system's default music on hold source. Once the system is installed, additional music on hold sources can be configured for specific groups and incoming call routes

- You must ensure that any MOH source you use complies with copyright, performing rights and other local and national legal requirements.

Name	Description
System Source	Select the source the system should use its default music on hold. The options available depend on the type of system. • **WAV File** - Use a WAV file called `HoldMusic.wav`. The file can be uploaded using the controls below. Note that on Linux systems, the file name is case sensitive. • **External** - IP500 V2 systems only. Use the audio source connected to the back of the control unit. • **Tone** - Use of a repeated double tone generated by the system. This tone is also automatically used if, for any of the .WAV file options the has not yet been successfully uploaded. • **WAV (Restart)**: Identical to **WAV File** above except that for each new listener, the file plays from the beginning. Not supported on IP500 V2 systems.
Select a File **Upload**	If use of a wav file is selected, use these fields to select and upload the file to the system. The file should be in the following format: • PCM • 8kHz 16-bit • Mono • Maximum length: - IP500 V2 = 90 seconds. - Linux-based Server = 600 seconds.

Auto Attendants

These settings are shown for an IP500 V2 systems with the **Voicemail Type** set to **Embedded Voicemail**. It allows configuration of auto-attendant services. These can then be used as the destination for external calls in incoming call routes.

Name	Description
Name	Range = Up to 12 characters This field sets the name for the auto-attendant service. This can be used to route calls to the auto-attendant.

Table continues…

Name	Description
Maximum Inactivity	Default = 8 seconds; Range = 1 to 20 seconds. This field sets how long, after playing the prompts, the auto-attendant waits for a valid key press. If exceeded, the call is transferred to the Fallback Extension if set, otherwise the call is disconnected.
AA Number	This number is assigned by the system and cannot be changed. It is used in conjunction with short codes to access the auto attendant service or to record auto attendant greetings.
Direct Dial-By-Number	Default = Off. This setting affects the operation of any key presses in the auto attendant menu set to use the **Dial By Number** action. If selected, the key press for the action is included in any following digits dialed by the caller for system extension matching. For example, if 2 is set in the actions to **Dial by Number**, a caller can dial 201 for extension 201. If not selected, the key press for the action is not included in any following digits dialed by the caller for system extension matching. For example, if 2 is set in the actions to **Dial by Number**, a caller must dial 2 and then 201 for extension 201.
Dial by Name Match Order	Default = First Name/Last Name. Determines the name order used for the Embedded Voicemail Dial by Name function.
Enable Local Recording	Default = On. When off, use of short codes to record auto-attendant prompts is blocked. The short codes can still be used to playback the greetings.

Related links

The Setup Wizard/Initial Configuration on page 43

Setup Wizard: Subscription

This panel is only shown for subscription mode systems. It display details of the system's subscription settings and the subscriptions obtained.

The panel is only shown on systems that have completed their initial configuration. The settings cannot be edited. For systems going through initial configuration, the subscription settings are set through the **System** panel.

Name	Description
System ID	This is a fixed value against which the system's subscriptions are issued and validated. • For an IP500 V2 system, this ID is based on the System SD card installed in the system.

Table continues…

Name	Description
Customer ID	The customer ID specified when the system was registered for subscriptions.
License Server Address	The address of the server which provides the system with its subscriptions.

Available Subscriptions

These fields indicate the subscriptions provided to the system. For user subscriptions, the number of subscriptions are shown. For feature subscriptions, true indicates that the system has obtained that subscription.

Related links

The Setup Wizard/Initial Configuration on page 43

Setup Wizard: Licensing

This panel is shown for non-subscription systems. It allows configuration of where the system should obtain its licenses.

Related links

The Setup Wizard/Initial Configuration on page 43

Setup Wizard: User

This panel lists the users configured on the system. It allows you to add, delete or edit entries.

For IP500 V2 control units, user and extension records are automatically created for each physical extension port detected at system start.

Related links

The Setup Wizard/Initial Configuration on page 43

Setup Wizard: Groups

This panel lists the groups configured on the system. It allows you to add, delete or edit entries.

Each group has its own extension number and settings for how calls directed to that number should be presented to the users added to the group.

Related links

The Setup Wizard/Initial Configuration on page 43

Setup Wizard: Lines

This panel lists the lines configured on the system. It allows you to add, delete or edit entries.

For IP500 V2 control units, line records are automatically created for each physical line detected at system start.

Related links

The Setup Wizard/Initial Configuration on page 43

Setup Wizard: Incoming Call Routes

You can use this panel to configure where incoming external calls should be routed.

Working Hours Time Profile

These settings are used to define a default time profile for the customer's normal hours of business. This profile is then used to alter the routing of incoming calls inside and outside those times.

Once the system has been configured, additional time profiles can be added if required.

Setting	Description
Start Time	The time when normal working hours begin.
End Time	The time when normal working hours end.
Days	The days of the week when the working hours apply.

Incoming Call Routes

You can create and edit incoming call routes for the lines setup in the previous setup wizard panel. A route is required for each of the incoming line group IDs used for the lines in the system configuration.

Setting	Description
Incoming Line Group ID	Each of the lines in the system is configured with an Incoming Line Group ID. The same ID can be used for on several line. The incoming call route with the same ID is then used to route calls on those lines.
Trunk Identifier	This is a unique name added by the system for the set of trunks
Incoming Number	If required, in addition to matching the **Incoming Line Group ID** you can also match the incoming number received to route the calls for that number to different destinations. This option is not supported on all trunks. For example it is not supported with analog trunks.

Table continues…

Setting	Description
Working Hours Destination	The destination for calls that match the incoming call route during the times defined by the working hours time profile. The destination number can be selected from the drop-down list. This lists: • All existing users, groups and auto-attendants. • **Voicemail** for caller access to voicemail to collect messages. For destinations not listed in the drop-down list, the destination number can be entered manually.
Out of Office Hours Destination	The destination for calls that match the incoming call route outside the times defined by the working hours time profile.

Related links

The Setup Wizard/Initial Configuration on page 43

Setup Wizard: Outgoing Call Routes

This panel is only shown for systems where the **Locale** is set to **United States (US English)** or **Canada (Canadian French)**.

Telephony Settings

Setting	Description
Directory Overrides Barring	Default = On. When enabled, the **Outgoing Call Bar** setting on any user is not applied to the dialing of numbers that are in the system directory. This does not affect other methods of call barring.
Bar outgoing calls for Out of Office hours	Default = Off. When enabled, outgoing external calls are barred during times outside the default working hours time profile settings.

Line Selection for Outgoing Calls

Setting	Description
Select Line for Outgoing Calls	This field selects the default outgoing line group ID that should be used for all outgoing calls. That outgoing group ID can be assigned to multiple lines. Outgoing calls will then use any available line that has the same outgoing group ID
Outgoing Group ID	These fields show a summary of the existing outgoing group IDs configured and the lines using those settings. To edit the outgoing line groups use the **Lines** panel.
Line Information	

Assign Users to Outgoing Route

By default the dialing of external numbers is processed through alternate route selection (ARS) entries in the configuration. These contain setting that control what numbers are allowed, add or remove prefixes, etc.

The default ARS entry is called **Main**. However, the number of additional outgoing call routes exist (**Unrestricted**, **International**, **National** and **Long Distance**). The menu below allows you to select which of these ARS entries should be used by each user.

Setting	Description
Name	The user name.
Outgoing Route	The ARS entry that should be applied to the users outgoing calls. Click on the current setting to select a different ARS entry.

Related links

The Setup Wizard/Initial Configuration on page 43

Chapter 6: Subscription and COM Support Setup

For systems running in IP Office Subscription mode, the network's primary server is configured with details of a Customer Operations Manager (COM) service. Through that service, the primary server receives subscription entitlements for the users and IP Office services supported by the network.

COM users can see the status of the primary and other servers plus any alarms. COM can also support a range of other support features such as backup, restore, upgrade, remote access. For full details, refer to *"Using Customer Operations Manager for IP Office Subscription Systems"*.

Related links

Checking the System Subscriptions on page 60
Enabling COM Support on Server Edition Systems on page 61
Enabling Additional COM Support Settings on page 62
Setting All Servers to Subscription Mode on page 63

Checking the System Subscriptions

Having installed a primary server in subscription mode, the subscriptions received should be checked.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Select **System Settings** > **Subscription**.
3. If the system has successfully connected with the subscription server, the **Available Subscriptions** section will show the number of subscriptions the system has.
4. If the system has not received any subscriptions, check the following configuration settings:
    a. Check that the **Subscription** settings match those shown in the subscription email received for the customer's system.
    b. Select **System Settings** > **System** > **DNS**. Check that the values matches that used for the customer's network or a know default such as `8.8.8.8`.

c. Select **System Settings** > **IP Routes**. For the primary server there should be a default route, that is one with the **IP Address** and **IP Subnet Mask** set to `0.0.0.0`. For the route, the **Destination** and **Gateway** address should match the customer's network connection for outgoing internet connections.

d. The system should be set to obtain time from an internet time server. That can be checked through the web control settings (**Settings** > **System** > **Date and Time** > **Enable Network Time Protocol Client**).

Related links

Subscription and COM Support Setup on page 60

Enabling COM Support on Server Edition Systems

To connect to a customer's IP Office systems, by default Customer Operations Manager (COM) uses the settings of a security user account called **COMAdmin** configured on those systems.

On customer premises systems, the **COMAdmin** security user is disabled by default and doesn't have a password set.

About this task

The process below sets the password for the **COMAdmin** security user and enables the user account.

- The process affects all servers in the network.
- If adding multiple servers, this process can be run when all the servers have been added.
- If at a later date, the customer adds another server to their network, you should repeat this process.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Click **Solution**.
3. Click on the **Actions** drop-down and select **Remote Operations Management**.
4. Enter and confirm the password that the systems in the customer solution should use for their COM connection.

   Important:

   - Note the password with care. It needs to be added to the customer's details in Customer Operations Manager in order to config the connection from COM.

5. Click **Enable & Synch**.
6. This enables the **COMAdmin** security user account on the primary system and sets its password. The change is then synchronizes to all other systems in the solution. This process can take several minutes depending on the number of systems in the solution.

7. When the successful synchronization message appears, click **Cancel**.

Related links

Subscription and COM Support Setup on page 60

Enabling Additional COM Support Settings

Systems using IP Office Subscription mode can be supported by COM users. In addition to monitor the system status and alarms, the COM users can access a number of additional support options.

About this task

The settings described below are normally automatically configured as required by the system provider or reseller when the system first subscribes. However, it is useful to understand where the settings are set and to check their values.

- These settings are configured on a primary server only. However, they apply to all IP Office servers connected to the primary using a websocket line except for any standalone IP Office Application server.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Select **System Settings** > **System** > **Remote Operations**.
3. Check the settings are configured as required by the customer:

Setting	Description
Centralized Management	Enables remote connections through COM to the primary IP Office server for IP Office admin tools. Those tools are System Status Application, SysMonitor and IP Office Web Manager.
Centralized Diagnostics Log	When enabled, system log files are regularly automatically uploaded to COM. COM users can also manually request the latest files.
Remote Upgrade/ Backup	When enabled, COM automatically requests a daily backup. COM users can also perform manual backup, restore and upgrade operations.
Remote Access	Support HTTPS, SFTP, SSH and RDP connections to IP Office servers and other servers running on the same network.
Co-located Servers	Extend **Remote Access** support to other server on the same network as the COM managed IP Office. This can include connection to UCM modules and standalone IP Office Application servers. Connect to other servers and services also requires a tunnel to be added to the IP Office system configuration for the specific connection.

4. If you make any changes, click **Update**.

Related links

Subscription and COM Support Setup on page 60

Setting All Servers to Subscription Mode

All the IP Office servers in a network should operate in the same mode. The administration application will show an alarm if that is not the case.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Select **Configure** > **Set All Nodes to Subscription Mode**.

Related links

Subscription and COM Support Setup on page 60

Chapter 7: Server PLDS Licensing

For non-subscription system or network, the primary server needs a PLDS license file added. That license file is unique to the PLDS ID of the primary server and the major level of software (for example 11.x) that it is running.

Once the license file has been added, the licenses in that file need to be assigned:

- Some licenses are assigned automatically to reflect the configuration of a particular server. For example, the user profile licenses are assigned to match the users on each system.
- Other licenses are assigned manually. For example you can configure how many SIP channel licenses each system in the network can take from the total number available in the license file.

Related links

Adding the PLDS License File on page 64
Assigning PLDS licenses on page 65

Adding the PLDS License File

The primary server (unless in subscription mode) is licensed by the uploading of a PLDS license file to the server. The license file contains license information for both the primary server and for all other IP Office servers in the network.

This process is not application to subscription systems. They obtain their license entitlements using the subscription details entered during their primary server's initial configuration.

Note:

- The PLDS license file is an XML file. It can be opened and view in a text editor. However, making any changes will invalidate the file and cause license errors.

Before you begin

- Obtain the PLDS XML license file for the primary server.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Select **Applications** > **Web License Manager**. The **Web License Manager** opens in a separate browser window.

3. Enter `admin` as the **User Name** and `weblmadmin` as the **Password**.
4. Change the default password by entering the old password again and then entering the new password. Click **Submit**.
5. Login again by entering `admin` and the new password.
6. Click **Install license**.
7. Click **Choose File**. Browse to and select the PLDS XML file.
8. Click **Accept the License Terms & Conditions**.
9. Click **Install**.
10. Click **Licensed product** > **IPO** > **IP_Office**. The menu should show a list of the licenses now available to the servers in the primary server's network.
11. Close the **Web License Manager** window.

Next steps

- You can now assign the licenses that the server needs. See Assigning PLDS licenses on page 65.

Related links

Server PLDS Licensing on page 64

Assigning PLDS licenses

For systems using PLDS licenses, once the primary server is licensed (see Adding the PLDS License File on page 64) those licenses can be assigned to systems. Some licenses are assigned automatically based on items in the configuration of the server, for example extension licenses. Other licenses are assigned manually using the process below.

Procedure

1. Login to manager or web manager.
2. Select **System Settings** > **License**.
3. The **License** tab lists the licenses currently being used by the system.
4. Click on **Remote Server**.
5. Use the **Reserved Licenses** section to specify the number of licenses that the server should request from those specified in the license file loaded on the primary server.
   - Grayed out choices indicate licenses requested automatically based on the server's configuration.
6. Save the new settings.

Next steps

- Once the primary server is configured and correctly licensed, proceed with the secondary server installation. See Secondary Server Installation and Initial Configuration on page 68.

Related links

Server PLDS Licensing on page 64

Part 4: Secondary Server Installation

Chapter 8: Secondary Server Installation and Initial Configuration

The Server Edition Secondary server is an optional server which can support additional users, IP trunks, and conference channels.

The secondary server provides resilience to the users, phones and hunt groups configured on the primary server and any expansion servers. It also provides resilience for the voicemail and one-X Portal services normally provided by the primary server.

Once the server software has been installed (see Server Software Installation on page 26) and the server ignited as a secondary server, it can be configured using the processes in this section.

Important:

- All servers in the network must be configured and licensed for the same operation mode. For example, all as **Server Edition**, **Server Edition – Select** or all as **Sever Edition – Subscription**.
- The primary and secondary servers must be matching servers in terms of supported capacity. See the Avaya IP Office™ Platform Guidelines: Capacity document. That should include capacity on both servers to support reciprocal resilience of the other server's extensions.

Related links

Adding a Secondary server using Web Manager on page 68
Adding a Secondary server using Manager on page 70
Enabling COM Support on Server Edition Systems on page 73
Assigning PLDS licenses on page 73

Adding a Secondary server using Web Manager

This process adds the secondary server to the primary server’s network. For a new server it also takes the server through its initial configuration.

If required you can separate the two processes. Do that by first logging in to the new server's IP address and completing its initial configuration. Then log in to the primary server's address and add the new server.

Before you begin

- Complete primary server setup and licensing before installing any secondary or expansion server. See Primary Server Installation and Initial Configuration on page 38.
- Ignite the server as a secondary server. See Igniting the server on page 33.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Click **Solution**.
3. Select **Configure** > **Add System to Solution**.
4. Select **Secondary server**.
5. Enter the IP address set during the server ignition. Otherwise click on **Discovery Preferences** and configure the range of addresses to search.
6. Click **Discover**.
7. From the list of discovered IP Office servers, select the required IP Office server and click **Next**.
8. If prompted, select the primary IP Office server IP address to link and click **OK**.
9. For a newly ignited IP Office server, the initial configuration menu server is displayed.
10. In the **System Mode**, select one of the following:

System Mode	Description
Server Edition	Select this option for a primary server that will use a PLDS file for licensing.
Server Edition - Select	Select this option for a primary server that will use a PLDS file for licensing that includes Select licenses. Note that if in a network, all servers in the network requires a Select license.
Server Edition - Subscription	Select this option for a primary server that will use subscriptions for licensing.

11. Set a unique **System Name** for the system. This will appear in other administration menus and helps identify the particular server.
12. If applicable, enter the **Services Device ID** issued for support of the server.
13. Set the **Locale** to match the customer location. Set this accurately as it affects a number of default telephony settings that the system will then use.
14. Set and confirm the **Default Extension Password**. This is used to set the extension password required to register IP extension unless a separate specific password is configured in the extension's own settings.
15. Using the **Public LAN Interface** control:
    a. Select **LAN1** and check that the **IP Address** and **IP Mask** match the network settings that the server should use for its eth0 port.

b. Select which **DHCP Mode** the server should support on the LAN.

Option	Description
Server	The server will act as a DHCP server for the network on that interface. For its own address it will use the IP Address details entered in this menu.
Client	The server will obtain its IP address settings automatically from a DHCP server elsewhere on the network.
Dial In	This DHCP mode is not supported on Linux-based IP Office servers.
Disabled	The server will use the fixed IP address details entered in this menu.

c. Select **LAN2** and check that the **IP Address** and **IP Mask** settings match the network settings that the server should use for its eth1 port.

d. Set the **Gateway** address for the customer network.

16. Having set and checked the IP address and DHCP details, select which port, **LAN1** or **LAN2**, will be used for outgoing connections from the customer network for general internet access. This choice adds a default IP route from that LAN to the specified **Gateway** address.
17. Check that **Server Edition Primary** is set to the IP address of the primary server.
18. If the customer network has a specific **DNS Server**, enter its address.
19. Enter an **Web Socket Password** password. This password is used for the links to other IP Office servers in the network.
20. Check the settings are all as required and match the customer network requirements.
21. Click **Next**. The IP Office services on the servers are restarted using the new configuration.

Next steps

- For subscription mode systems:
  - If this is the final system being added, enable COM support on the systems. See Enabling COM Support on Server Edition Systems on page 73.
  - Otherwise, proceed to adding the expansions servers. See Expansion Server (Linux) Installation and Initial Configuration on page 76 and Expansion Server (IP500 V2) Initial Configuration on page 83.
- For non-subscription systems, assign the licenses required by the server from those available on the networks primary server. See Assigning PLDS licenses on page 73.

Related links

Secondary Server Installation and Initial Configuration on page 68

Adding a Secondary server using Manager

This process adds the secondary server to the primary server's network. For a new server it also takes the server through its initial configuration.

Before you begin

- Complete primary server setup and licensing before installing any secondary or expansion server. See Primary Server Installation and Initial Configuration on page 38.
- Ignite the server as a secondary server. See Igniting the server on page 33.

Procedure

1. Start Manager. See Starting IP Office Manager on page 147.
   a. Click **File** > **Open Configuration**.
   b. From the **Select IP Office** menu, select the primary server and click **OK**.
   c. Enter `Administrator` and the password configured for that user account during the primary server's ignition. Click **OK**.
2. Click **Solution**. On the **Summary** menu, on the right under **Add**, click **Secondary Server**.
3. In the **Add Secondary Server** window, either:
   - Enter the IP address of the server and click **OK**.
   - Click on the search icon. Select the server from those listed and click **OK**.
4. The initial configuration menu for the secondary server is displayed. This is similar to that shown for the primary server.
5. In the **System Mode**, select one of the following:

System Mode	Description
Server Edition	Select this option for a primary server that will use a PLDS file for licensing.
Server Edition - Select	Select this option for a primary server that will use a PLDS file for licensing that includes Select licenses. Note that if in a network, all servers in the network requires a Select license.
Server Edition - Subscription	Select this option for a primary server that will use subscriptions for licensing.

6. Set a unique **System Name** for the system. This will appear in other administration menus and helps identify the particular server.
7. If applicable, enter the **Services Device ID** issued for support of the server.
8. Set the **Locale** to match the customer location. Set this accurately as it affects a number of default telephony settings that the system will then use.
9. Set and confirm the **Default Extension Password**. This is used to set the extension password required to register IP extension unless a separate specific password is configured in the extension's own settings.
10. Using the **Public LAN Interface** control:
    a. Select **LAN1** and check that the **IP Address** and **IP Mask** match the network settings that the server should use for its eth0 port.
    b. Select which **DHCP Mode** the server should support on the LAN.

Option	Description
Server	The server will act as a DHCP server for the network on that interface. For its own address it will use the IP Address details entered in this menu.
Client	The server will obtain its IP address settings automatically from a DHCP server elsewhere on the network.
Dial In	This DHCP mode is not supported on Linux-based IP Office servers.
Disabled	The server will use the fixed IP address details entered in this menu.

c. Select **LAN2** and check that the **IP Address** and **IP Mask** settings match the network settings that the server should use for its eth1 port.

d. Set the **Gateway** address for the customer network.

11. Having set and checked the IP address and DHCP details, select which port, **LAN1** or **LAN2**, will be used for outgoing connections from the customer network for general internet access. This choice adds a default IP route from that LAN to the specified **Gateway** address.
12. Check that **Server Edition Primary** is set to the IP address of the primary server.
13. If the customer network has a specific **DNS Server**, enter its address.
14. Enter an **Web Socket Password** password. This password is used for the links to other IP Office servers in the network.
15. Check the settings are all as required and match the customer network requirements.
16. Click **Save**. The server's configuration is opened in manager. At this stage it has not been saved to the system.
17. Click **File** > **Save Configuration**
18. Check that the **Change Mode** is set to **Reboot** and click **OK**.
19. Click **Next**. The IP Office services on the servers are restarted using the new configuration.
20. For non-subscription systems, assign the licenses required by the server in the same way as done for the primary server. See Assigning PLDS licenses on page 65.

Next steps

- For subscription mode systems:
  - If this is the final system being added, enable COM support on the systems. See Enabling COM Support on Server Edition Systems on page 73.
  - Otherwise, proceed to adding the expansions servers. See Expansion Server (Linux) Installation and Initial Configuration on page 76 and Expansion Server (IP500 V2) Initial Configuration on page 83.
- For non-subscription systems, assign the licenses required by the server from those available on the networks primary server. See Assigning PLDS licenses on page 73.

Related links

Secondary Server Installation and Initial Configuration on page 68

Enabling COM Support on Server Edition Systems

About this task

The process below sets the password for the **COMAdmin** security user and enables the user account.

- The process affects all servers in the network.
- If adding multiple servers, this process can be run when all the servers have been added.
- If at a later date, the customer adds another server to their network, you should repeat this process.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Click **Solution**.
3. Click on the **Actions** drop-down and select **Remote Operations Management**.
4. Enter and confirm the password that the systems in the customer solution should use for their COM connection.

   Important:

   - Note the password with care. It needs to be added to the customer's details in Customer Operations Manager in order to config the connection from COM.
5. Click **Enable & Synch**.
6. This enables the **COMAdmin** security user account on the primary system and sets its password. The change is then synchronizes to all other systems in the solution. This process can take several minutes depending on the number of systems in the solution.
7. When the successful synchronization message appears, click **Cancel**.

Related links

Secondary Server Installation and Initial Configuration on page 68

Assigning PLDS licenses

For systems using PLDS licenses, once the primary server is licensed (see Adding the PLDS License File on page 64) those licenses can be assigned to systems. Some licenses are assigned automatically based on items in the configuration of the server, for example extension licenses. Other licenses are assigned manually using the process below.

Procedure

1. Login to manager or web manager.

2. Select **System Settings** > **License**.
3. The **License** tab lists the licenses currently being used by the system.
4. Click on **Remote Server**.
5. Use the **Reserved Licenses** section to specify the number of licenses that the server should request from those specified in the license file loaded on the primary server.
   - Grayed out choices indicate licenses requested automatically based on the server's configuration.
6. Save the new settings.

Next steps

- Once the secondary server is licensed, proceed with installation of any Linux-based expansion servers. See Expansion Server (Linux) Installation and Initial Configuration on page 76.

Related links

Secondary Server Installation and Initial Configuration on page 68

Part 5: Expansion Server Installation

Chapter 9: Expansion Server (Linux) Installation and Initial Configuration

Having installed the primary server, and if required the optional secondary server, you can now install and add expansion servers. An expansion server can be used to support additional extensions and lines in a separate location.

- This section covers installing a Linux-based expansion server. For an IP500 V2 based expansion server, see Expansion Server (IP500 V2) Initial Configuration on page 83.

Related links

Adding an Expansion Server Using Web Manager on page 76
Adding an Expansion Server Using Manager on page 78
Enabling COM Support on Server Edition Systems on page 81
Assigning PLDS licenses on page 81

Adding an Expansion Server Using Web Manager

Use this procedure to add a Linux-based Server Edition Expansion System.

If required you can separate the two processes. Do that by first logging in to the new server's IP address and completing its initial configuration. Then log in to the primary server's address and add the new server.

Before you begin

- Install and license the network's primary and secondary servers before installing any expansion servers. See

  Primary Server Installation and Initial Configuration on page 38 and Secondary Server Installation and Initial Configuration on page 68.

- Ignite the server as an expansion server. See Igniting the server on page 33.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.

2. Click **Solution**.
3. Select **Configure** > **Add System to Solution**.
4. Select **Expansion server**.
5. Enter the IP address set during the server ignition. Otherwise click on **Discovery Preferences** and configure the range of addresses to search.
6. Click **Discover**.
7. From the list of discovered IP Office servers, select the required IP Office server and click **Next**.
8. If prompted, select the primary server and secondary server IP addresses and click **OK**.
9. For a newly ignited IP Office server, the initial configuration menu server is displayed.
10. In the **System Mode**, select one of the following:

System Mode	Description
Server Edition	Select this option for a primary server that will use a PLDS file for licensing.
Server Edition - Select	Select this option for a primary server that will use a PLDS file for licensing that includes Select licenses. Note that if in a network, all servers in the network requires a Select license.
Server Edition - Subscription	Select this option for a primary server that will use subscriptions for licensing.

11. Set a unique **System Name** for the system. This will appear in other administration menus and helps identify the particular server.
12. If applicable, enter the **Services Device ID** issued for support of the server.
13. Set the **Locale** to match the customer location. Set this accurately as it affects a number of default telephony settings that the system will then use.
14. Set and confirm the **Default Extension Password**. This is used to set the extension password required to register IP extension unless a separate specific password is configured in the extension's own settings.
15. Using the **Public LAN Interface** control:
    a. Select **LAN1** and check that the **IP Address** and **IP Mask** match the network settings that the server should use for its eth0 port.
    b. Select which **DHCP Mode** the server should support on the LAN.

Option	Description
Server	The server will act as a DHCP server for the network on that interface. For its own address it will use the IP Address details entered in this menu.
Client	The server will obtain its IP address settings automatically from a DHCP server elsewhere on the network.

Table continues…

Option	Description
Dial In	This DHCP mode is not supported on Linux-based IP Office servers.
Disabled	The server will use the fixed IP address details entered in this menu.

c. Select **LAN2** and check that the **IP Address** and **IP Mask** settings match the network settings that the server should use for its eth1 port.

d. Set the **Gateway** address for the customer network.

16. Enter the IP address of the **Server Edition Primary**.
17. For **Server Edition Secondary**, enter the IP address of the planned secondary server. If there is no plan to add a secondary server, enter a dummy address.
18. For a **Server Edition - Select** and **Server Edition - Subscription** network, you can selection whether the primary or secondary should provide the voicemail services for the expansion server.
19. If the customer network has a specific **DNS Server**, enter its address.
20. Enter an **Web Socket Password** password. This password is used for the links to other IP Office servers in the network.
21. Check the settings are all as required and match the customer network requirements.
22. Click **Save**. The server's configuration is opened in manager. At this stage it has not been saved to the system.
23. Click **File** > **Save Configuration**
24. Check that the **Change Mode** is set to **Reboot** and click **OK**.
25. Click **Next**. The IP Office services on the servers are restarted using the new configuration.

Next steps

- For subscription mode systems, if this is the final system being added, enable COM support on the systems. See Enabling COM Support on Server Edition Systems on page 81:
- For non-subscription systems, assign the licenses required by the server from those available on the networks primary server. See Assigning PLDS licenses on page 73.

Related links

Expansion Server (Linux) Installation and Initial Configuration on page 76

Adding an Expansion Server Using Manager

Use this procedure to add a Linux-based Server Edition Expansion System.

Before you begin

- Install and license the network's primary and secondary servers before installing any expansion servers. See

Primary Server Installation and Initial Configuration on page 38 and Secondary Server Installation and Initial Configuration on page 68.

- Ignite the server as an expansion server. See Igniting the server on page 33.

Procedure

1. Start Manager. See Starting IP Office Manager on page 147.
   a. Click **File** > **Open Configuration**.
   b. From the **Select IP Office** menu, select the primary server and click **OK**.
   c. Enter `Administrator` and the password configured for that user account during the primary server's ignition. Click **OK**.
2. Click **Solution**. On the **Summary** menu, on the right under **Add**, click **Expansion Server**.
3. In the Add Expansion System window, either:
   - Enter the IP address of the server and click **OK**.
   - Click on the search icon. Select the server from those listed and click **OK**.
4. The initial configuration menu for the expansion server is displayed.
5. In the **System Mode**, select one of the following:

System Mode	Description
Server Edition	Select this option for a primary server that will use a PLDS file for licensing.
Server Edition - Select	Select this option for a primary server that will use a PLDS file for licensing that includes Select licenses. Note that if in a network, all servers in the network requires a Select license.
Server Edition - Subscription	Select this option for a primary server that will use subscriptions for licensing.

6. Set a unique **System Name** for the system. This will appear in other administration menus and helps identify the particular server.
7. If applicable, enter the **Services Device ID** issued for support of the server.
8. Set the **Locale** to match the customer location. Set this accurately as it affects a number of default telephony settings that the system will then use.
9. Set and confirm the **Default Extension Password**. This is used to set the extension password required to register IP extension unless a separate specific password is configured in the extension's own settings.
10. Using the **Public LAN Interface** control:
    a. Select **LAN1** and check that the **IP Address** and **IP Mask** match the network settings that the server should use for its eth0 port.
    b. Select which **DHCP Mode** the server should support on the LAN.

Option	Description
Server	The server will act as a DHCP server for the network on that interface. For its own address it will use the IP Address details entered in this menu.
Client	The server will obtain its IP address settings automatically from a DHCP server elsewhere on the network.
Dial In	This DHCP mode is not supported on Linux-based IP Office servers.
Disabled	The server will use the fixed IP address details entered in this menu.

c. Select **LAN2** and check that the **IP Address** and **IP Mask** settings match the network settings that the server should use for its eth1 port.

d. Set the **Gateway** address for the customer network.

11. Enter the IP address of the **Server Edition Primary**.
12. For **Server Edition Secondary**, enter the IP address of the planned secondary server. If there is no plan to add a secondary server, enter a dummy address.
13. For a **Server Edition - Select** and **Server Edition - Subscription** network, you can selection whether the primary or secondary should provide the voicemail services for the expansion server.
14. If the customer network has a specific **DNS Server**, enter its address.
15. Enter an **Web Socket Password** password. This password is used for the links to other IP Office servers in the network.
16. Check the settings are all as required and match the customer network requirements.
17. Click **Save**. The server's configuration is opened in manager. At this stage it has not been saved to the system.
18. Click **File** > **Save Configuration**
19. Check that the **Change Mode** is set to **Reboot** and click **OK**.
20. Click **Next**. The IP Office services on the servers are restarted using the new configuration.

Next steps

- For subscription mode systems, if this is the final system being added, enable COM support on the systems. See Enabling COM Support on Server Edition Systems on page 81:
- For non-subscription systems, assign the licenses required by the server from those available on the networks primary server. See Assigning PLDS licenses on page 73.

Related links

Expansion Server (Linux) Installation and Initial Configuration on page 76

Enabling COM Support on Server Edition Systems

About this task

The process below sets the password for the **COMAdmin** security user and enables the user account.

- The process affects all servers in the network.
- If adding multiple servers, this process can be run when all the servers have been added.
- If at a later date, the customer adds another server to their network, you should repeat this process.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Click **Solution**.
3. Click on the **Actions** drop-down and select **Remote Operations Management**.
4. Enter and confirm the password that the systems in the customer solution should use for their COM connection.

   Important:

   - Note the password with care. It needs to be added to the customer's details in Customer Operations Manager in order to config the connection from COM.
5. Click **Enable & Synch**.
6. This enables the **COMAdmin** security user account on the primary system and sets its password. The change is then synchronizes to all other systems in the solution. This process can take several minutes depending on the number of systems in the solution.
7. When the successful synchronization message appears, click **Cancel**.

Related links

Expansion Server (Linux) Installation and Initial Configuration on page 76

Assigning PLDS licenses

For systems using PLDS licenses, once the primary server is licensed (see Adding the PLDS License File on page 64) those licenses can be assigned to systems. Some licenses are assigned automatically based on items in the configuration of the server, for example extension licenses. Other licenses are assigned manually using the process below.

Procedure

1. Login to manager or web manager.

2. Select **System Settings** > **License**.
3. The **License** tab lists the licenses currently being used by the system.
4. Click on **Remote Server**.
5. Use the **Reserved Licenses** section to specify the number of licenses that the server should request from those specified in the license file loaded on the primary server.
   - Grayed out choices indicate licenses requested automatically based on the server's configuration.
6. Save the new settings.

Next steps

- Repeat the process of installation for any other Linux-based expansion servers.
- Then proceed with installation of any IP500 V2 expansion servers. See Expansion Server (IP500 V2) Initial Configuration on page 83.

Related links

Expansion Server (Linux) Installation and Initial Configuration on page 76
Expansion Server (IP500 V2) Initial Configuration on page 83

Chapter 10: Expansion Server (IP500 V2) Initial Configuration

Having installed the primary server, and if required the optional secondary server, you can now install and add expansion servers. An expansion server can be used to support additional extensions and lines in a separate location.

This section covers the initial configuration of an IP500 V2 expansion server. For an Linux–based expansion server, see Expansion Server (Linux) Installation and Initial Configuration on page 76.

These details should be used in conjunction with the documentation for installation of the IP500 V2 hardware:

- For a subscription system: *"Deploying an IP500 V2 IP Office Subscription System"*
- For other systems: *"Deploying an IP500 V2 IP Office Essential Edition System"*

Related links

Initial IP500 V2 Configuration using Web Manager on page 83
Initial IP500 V2 Configuration using Manager on page 85
Adding an IP500 V2 Expansion using Web Manager on page 87
Adding an IP500 V2 Expansion using Manager on page 88
Enabling COM Support on Server Edition Systems on page 89
Assigning PLDS licenses on page 81

Initial IP500 V2 Configuration using Web Manager

Before you begin

Assembly and setup of the IP500 V2 hardware following the instructions in the appropriate document:

- For a subscription system: *"Deploying an IP500 V2 IP Office Subscription System"*
- For other systems: *"Deploying an IP500 V2 IP Office Essential Edition System"*

Procedure

1. Using IP Office Web Manager, connect directly to the new IP500 V2 system.
2. Login using the default user name `Administrator` and password `Administrator`.

3. You are prompted to change the default passwords.

Password	Description
Administrator Password	This password is used for access to the system's telephony and security configuration.
Security Administrator Password	This password is used for access to the system's security configuration only.
System Password	This password is used for system upgrades and can also be used for connections using SysMonitor.

4. The server's initial configuration menu is now shown. Ensure that you select the correct **System Mode**. Either:
   - For a subscription system: **Server Edition Expansion - Subscription**.
   - For other systems: **Server Edition Expansion**.
5. Set a unique **System Name** for the system. This will appear in other administration menus and helps identify the particular server.
6. If applicable, enter the **Services Device ID** issued for support of the server.
7. Set the **Locale** to match the customer location. Set this accurately as it affects a number of default telephony settings that the system will then use.
8. Set and confirm the **Default Extension Password**. This is used to set the extension password required to register IP extension unless a separate specific password is configured in the extension's own settings.
9. Using the **Public LAN Interface** control:
   a. Select **LAN1** and check that the **IP Address** and **IP Mask** match the network settings that the server should use for its eth0 port.
   b. Select which **DHCP Mode** the server should support on the LAN.

Option	Description
Server	The server will act as a DHCP server for the network on that interface. For its own address it will use the IP Address details entered in this menu.
Client	The server will obtain its IP address settings automatically from a DHCP server elsewhere on the network.
Dial In	This DHCP mode is not supported on Linux-based IP Office servers.
Disabled	The server will use the fixed IP address details entered in this menu.

   c. Select **LAN2** and check that the **IP Address** and **IP Mask** settings match the network settings that the server should use for its eth1 port.
   d. Set the **Gateway** address for the customer network.
10. Enter the IP address of the **Server Edition Primary**.
11. For **Server Edition Secondary**, enter the IP address of the planned secondary server. If there is no plan to add a secondary server, enter a dummy address.

12. For a **Server Edition - Select** and **Server Edition - Subscription** network, you can selection whether the primary or secondary should provide the voicemail services for the expansion server.
13. If the customer network has a specific **DNS Server**, enter its address.
14. Enter an **Web Socket Password** password. This password is used for the links to other IP Office servers in the network.
15. Check the settings are all as required and match the customer network requirements.
16. Click **Apply**.
17. The configuration menu provides a range of other options. For an expansion system these can be skipped and the system configured once it is part of the full network. Click **Save to IP Office**.
18. Select **Immediate** and click **OK**.

Next steps

- Once the server has restarted (approximately 6 minutes), the new expansion server can be added to the network. See Adding an IP500 V2 Expansion using Web Manager on page 87.

Related links

Expansion Server (IP500 V2) Initial Configuration on page 83

Initial IP500 V2 Configuration using Manager

Before you begin

Assembly and setup of the IP500 V2 hardware following the instructions in the appropriate document:

- For a subscription system: *"Deploying an IP500 V2 IP Office Subscription System"*
- For other systems: *"Deploying an IP500 V2 IP Office Essential Edition System"*

Procedure

1. Using Manager, connect directly to the new IP500 V2 system.
2. Login using the default user name `Administrator` and password `Administrator`.
3. You are prompted to change the default passwords.

Password	Description
Administrator Password	This password is used for access to the system's telephony and security configuration.
Security Administrator Password	This password is used for access to the system's security configuration only.

Table continues…

Password	Description
System Password	This password is used for system upgrades and can also be used for connections using SysMonitor.

4. The server's initial configuration menu is now shown. Ensure that you select the correct **System Mode**. Either:
   - For a subscription system: **Server Edition Expansion - Subscription**.
   - For other systems: **Server Edition Expansion**.
5. Set a unique **System Name** for the system. This will appear in other administration menus and helps identify the particular server.
6. If applicable, enter the **Services Device ID** issued for support of the server.
7. Set the **Locale** to match the customer location. Set this accurately as it affects a number of default telephony settings that the system will then use.
8. Set and confirm the **Default Extension Password**. This is used to set the extension password required to register IP extension unless a separate specific password is configured in the extension's own settings.
9. Using the **Public LAN Interface** control:
   a. Select **LAN1** and check that the **IP Address** and **IP Mask** match the network settings that the server should use for its eth0 port.
   b. Select which **DHCP Mode** the server should support on the LAN.

Option	Description
Server	The server will act as a DHCP server for the network on that interface. For its own address it will use the IP Address details entered in this menu.
Client	The server will obtain its IP address settings automatically from a DHCP server elsewhere on the network.
Dial In	This DHCP mode is not supported on Linux-based IP Office servers.
Disabled	The server will use the fixed IP address details entered in this menu.

   c. Select **LAN2** and check that the **IP Address** and **IP Mask** settings match the network settings that the server should use for its eth1 port.
   d. Set the **Gateway** address for the customer network.
10. Enter the IP address of the **Server Edition Primary**.
11. For **Server Edition Secondary**, enter the IP address of the planned secondary server. If there is no plan to add a secondary server, enter a dummy address.
12. For a **Server Edition - Select** and **Server Edition - Subscription** network, you can selection whether the primary or secondary should provide the voicemail services for the expansion server.
13. If the customer network has a specific **DNS Server**, enter its address.

14. Enter an **Web Socket Password** password. This password is used for the links to other IP Office servers in the network.
15. Check the settings are all as required and match the customer network requirements.
16. Click **Save**. The server's configuration is opened in manager. At this stage it has not been saved to the system.
17. Click **File** > **Save Configuration**
18. Check that the **Change Mode** is set to **Reboot** and click **OK**.

Next steps

- Once the server has restarted (approximately 6 minutes), the new expansion server can be added to the network. See Adding an IP500 V2 Expansion using Manager on page 88.

Related links

Expansion Server (IP500 V2) Initial Configuration on page 83

Adding an IP500 V2 Expansion using Web Manager

This process adds an IP500 V2 control unit to the network as an expansion server.

Before you begin

- Complete the IP500 V2 system's initial configuration. See Initial IP500 V2 Configuration using Manager on page 85.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Click **Solution**.
3. Select **Configure** > **Add System to Solution**.
4. Select **Expansion server**.
5. Enter the IP address set during the server ignition. Otherwise click on **Discovery Preferences** and configure the range of addresses to search.
6. Click **Discover**.
7. From the list of discovered IP Office servers, select the required IP Office server and click **Next**.
8. If prompted, select the primary IP Office server IP address to link and click **OK**.
9. For a newly ignited IP Office server, the initial configuration menu server is displayed.
10. Click **Save**. The server's configuration is opened in manager. At this stage it has not been saved to the system.
11. Click **File** > **Save Configuration**

12. Check that the **Change Mode** is set to **Reboot** and click **OK**.
13. Click **Next**. The IP Office services on the servers are restarted using the new configuration.

Next steps

- For subscription mode systems, if this is the final system being added, enable COM support on the systems. See Enabling COM Support on Server Edition Systems on page 89:
- For non-subscription systems, assign the licenses required by the server from those available on the networks primary server. See Assigning PLDS licenses on page 73.

Related links

Expansion Server (IP500 V2) Initial Configuration on page 83

Adding an IP500 V2 Expansion using Manager

This process adds an IP500 V2 control unit to the network as an expansion server.

Before you begin

- Complete the IP500 V2 system's initial configuration. See Initial IP500 V2 Configuration using Manager on page 85.

Procedure

1. Start Manager. See Starting IP Office Manager on page 147.
   a. Click **File** > **Open Configuration**.
   b. From the **Select IP Office** menu, select the primary server and click **OK**.
   c. Enter `Administrator` and the password configured for that user account during the primary server's ignition. Click **OK**.
2. Click **Solution**. On the **Summary** menu, on the right under **Add**, click **Expansion Server**.
3. In the Add Expansion System window, either:
   - Enter the IP address of the server and click **OK**.
   - Click on the search icon. Select the server from those listed and click **OK**.
4. If the initial configuration menu appears for the server, complete it. See Initial IP500 V2 Configuration using Manager on page 85.
5. Click **File** > **Save Configuration**
6. Check that the **Change Mode** is set to **Reboot** and click **OK**.
7. Click **Next**. The IP Office services on the servers are restarted using the new configuration.
8. For non-subscription systems, assign the licenses required by the server in the same way as done for the primary server. See Assigning PLDS licenses on page 65.

Next steps

- For subscription mode systems, if this is the final system being added, enable COM support on the systems. See Enabling COM Support on Server Edition Systems on page 89:
- For non-subscription systems, assign the licenses required by the server from those available on the networks primary server. See Assigning PLDS licenses on page 73.

Related links

Expansion Server (IP500 V2) Initial Configuration on page 83

Enabling COM Support on Server Edition Systems

About this task

The process below sets the password for the **COMAdmin** security user and enables the user account.

- The process affects all servers in the network.
- If adding multiple servers, this process can be run when all the servers have been added.
- If at a later date, the customer adds another server to their network, you should repeat this process.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Click **Solution**.
3. Click on the **Actions** drop-down and select **Remote Operations Management**.
4. Enter and confirm the password that the systems in the customer solution should use for their COM connection.

   Important:

   - Note the password with care. It needs to be added to the customer's details in Customer Operations Manager in order to config the connection from COM.
5. Click **Enable & Synch**.
6. This enables the **COMAdmin** security user account on the primary system and sets its password. The change is then synchronizes to all other systems in the solution. This process can take several minutes depending on the number of systems in the solution.
7. When the successful synchronization message appears, click **Cancel**.

Related links

Expansion Server (IP500 V2) Initial Configuration on page 83

Assigning PLDS licenses

For systems using PLDS licenses, once the primary server is licensed (see Adding the PLDS License File on page 64) those licenses can be assigned to systems. Some licenses are assigned automatically based on items in the configuration of the server, for example extension licenses. Other licenses are assigned manually using the process below.

Procedure

1. Login to manager or web manager.
2. Select **System Settings** > **License**.
3. The **License** tab lists the licenses currently being used by the system.
4. Click on **Remote Server**.
5. Use the **Reserved Licenses** section to specify the number of licenses that the server should request from those specified in the license file loaded on the primary server.
   - Grayed out choices indicate licenses requested automatically based on the server's configuration.
6. Save the new settings.

Next steps

- Repeat the process of installation for any other Linux-based expansion servers.
- Then proceed with installation of any IP500 V2 expansion servers. See Expansion Server (IP500 V2) Initial Configuration on page 83.

Related links

Expansion Server (Linux) Installation and Initial Configuration on page 76
Expansion Server (IP500 V2) Initial Configuration on page 83

Part 6: Application Server Installation

Chapter 11: Application Server Installation

The installation process for an application server is similar to that for other Linux-based IP Office servers:

1. Use the standard server software installation. See Server Software Installation on page 26.
2. Ignite the server as an application server. See Igniting the server on page 33.
3. Continue with the processes in this section of the documentation:
    a. For use with subscription mode IP Office systems, set the service user password. See Service User Configuration for COM Support on page 92. This needs to be done before initial configuration of the application server.
    b. Perform the application server's initial configuration. See Application Server Initial Configuration on page 93.

Related links

Service User Configuration for COM Support on page 92
Application Server Initial Configuration on page 93

Service User Configuration for COM Support

Subscription mode IP Office systems can be remotely managed through Customer Operations Management (COM). That is, they can be remotely configured, upgraded, backed up, restored and various other services.

For IP Office R11.1 FP2 and higher, the same functionality can also include any application server associated with the subscription mode IP Office systems. To support that, a websocket connection is configured between the application server and IP Office systems it is supporting.

About this task

If using the application server with a subscription mode IP Office system, use the following process to set the password for the websocket connected required between the two servers to allow COM support of the application server. This password is required for the initial configuration of the application server.

Procedure

1. Connect to the IP Office system using IP Office Web Manager. See Starting Web Manager on page 146.

2. Select **Security** > **Security Settings**
3. Click **Service Users**.
4. Locate the **Adjunct Server** service user and click ✎.
5. Click the ✎ icon next to **Password** and enter the password for the websocket connection between the two servers.
6. Change the service user's **Account Status** to **Enabled**.
7. Click **Save**.

Next steps

- Perform the initial configuration of the application server. See Application Server Initial Configuration on page 93.

Related links

Application Server Installation on page 92

Application Server Initial Configuration

Before you begin

1. Complete the installation and licensing/subscription of the IP Office system which the application server will be supporting.
2. If the IP Office server is being managed through COM, ensure that the adjunct server service user password has been set. See Service User Configuration for COM Support on page 92.
3. Ignite the server as an application server. See Igniting the server on page 33.

Procedure

1. Connect to the application server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Set a unique **System Name** for the system. This will appear in other administration menus and helps identify the particular server.
3. If applicable, enter the **Services Device ID** issued for support of the server.
4. If the customer network has a specific **DNS Server**, enter its address.
5. Set the **Locale** to match the customer location. Set this accurately as it affects a number of default telephony settings that the system will then use.
6. In **IP Office FQDN/IP Address**, enter the address of the IP Office system which the application server will be supporting.
7. For the **Adjunct Server Password**, enter the password set for the Adjunct Server service user configured on the IP Office system which the application server will be supporting. See Service User Configuration for COM Support on page 92.

8. Using the **Public LAN Interface** control:
    a. Select **LAN1** and check that the **IP Address** and **IP Mask** match the network settings that the server should use for its eth0 port.
    b. Select which **DHCP Mode** the server should support on the LAN.

Option	Description
Server	The server will act as a DHCP server for the network on that interface. For its own address it will use the IP Address details entered in this menu.
Client	The server will obtain its IP address settings automatically from a DHCP server elsewhere on the network.
Dial In	This DHCP mode is not supported on Linux-based IP Office servers.
Disabled	The server will use the fixed IP address details entered in this menu.

    c. Select **LAN2** and check that the **IP Address** and **IP Mask** settings match the network settings that the server should use for its eth1 port.
    d. Set the **Gateway** address for the customer network.
9. Click **Apply**.

Next steps

The remaining stages depend on whether the application server will be supporting a Server Edition network or an IP500 V2 systems.

- **Server Edition:** See Application Server configuration in a Server Edition network on page 95.
- **IP500 V2:** See Application Server Configuration for IP500 V2 Support on page 98.

Related links

Application Server Installation on page 92

Chapter 12: Application Server configuration in a Server Edition network

An IP Office Application Server can be used to provide Avaya one-X Portal services for the primary or secondary server in a Server Edition network. When doing this, you must the existing portal service on the Server Edition server and configure the server with details of the application server.

Related links

Disabling the local portal service on page 95
Entering the address of the remote portal service on page 96
Adding the application server to the network on page 96

Disabling the local portal service

Before you begin

- **Ignite the server as an application server:** See Igniting the server on page 33.

Procedure

1. Login to the web control/platform view menus on the primary or secondary server which the application server is supporting.
2. If the **one-X Portal** service is shown as running, click **Stop**.
3. Check that the **Auto Start** option next to the service is not selected.

Next steps

- **Enter the remote portal service address:** See Entering the address of the remote portal service on page 96.

Related links

Application Server configuration in a Server Edition network on page 95

Entering the address of the remote portal service

When using the portal service provided by an application server, the primary or secondary server needs to be configured with the address of the application server.

Before you begin

- Disable the local portal service: See Disabling the local portal service on page 95.

Procedure

1. Login to the web control/platform view menus on the primary or secondary server which the application server is supporting.
2. Select **Settings** > **General**
3. In the **one-X Portal Settings** section, untick **Use Local IP**.
4. In the **Remote IP** field, enter the address of the application server.
5. Click **Save**.

Next steps

- **Add the application server to the Server Edition solution:** See Adding the application server to the network on page 96.

Related links

Application Server configuration in a Server Edition network on page 95

Adding the application server to the network

Before you begin

- **Enter the remote portal service address:** See Entering the address of the remote portal service on page 96.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Select the **Solution** view.
3. Click on **Solution Settings**.
4. Click **Application Server** and select **Add**.
5. Enter the IP address of the application server and click **Add**.

Next steps

- **Configure the remote portal service:** See one-X Portal Configuration on page 109.

Related links

Application Server configuration in a Server Edition network on page 95

Chapter 13: Application Server Configuration for IP500 V2 Support

Having ignited the server as an application server (see Igniting the server on page 33), each of the services that it is intended to support need to be configured separately.

- **Voicemail Pro:** See Voicemail Server Configuration on page 100.
- **one-X Portal for IP Office:** See one-X Portal Configuration on page 109.
- **WebRTC Gateway:** See Configuring the WebRTC Gateway on page 116.
- **Media Manager:** Refer to the Administering Avaya IP Office™ Platform Media Manager manual.

Part 7: Application Configuration

Chapter 14: Voicemail Server Configuration

By default the voicemail service is started automatically on the server is configured as a primary or secondary server. It is also started automatically on an IP Office Application server if selected as a service during the server's ignition process.

Related links

Configuring Voicemail Pro on page 100
Adding TTS Languages on page 101
Downloading and installing the Voicemail Pro client on page 102
Enabling Voicemail Pro client connection on page 102
Logging into Voicemail Pro server on page 103

Configuring Voicemail Pro

The Voicemail Pro application provides the mailbox services for all users and hunt groups created in the IP Office configuration. In a setup where there is a single IP Office and Voicemail Pro server you need not do any configuration. This section describes only the minimum steps that Avaya recommends to ensure that the Voicemail Pro server operates correctly and is secure.

For more details about IP Office and Voicemail Pro configuration, such as enabling TTS, or enabling exchange integration, see the *"Administering IP Office Voicemail Pro"* manual.

About this task

Add theVoicemail Pro licenses in IP Office Server Edition Manager.

Note:

A single instance of IP Office Server Edition provides only two Voicemail Pro channels. The number of Voicemail Pro channels that the system displays depends on the number of instances of IP Office Server Edition. If you have licenses for any additional channels, you must add those licenses as well.

In a resilience setup, when Server Edition Primary is not active, the system displays a voicemail failure message even though Voicemail Pro is working. The system displays a voicemail failure message for the Voicemail Pro on Server Edition Primary that is not active.

Related links

Voicemail Server Configuration on page 100

Adding TTS Languages

The Voicemail Pro application can use Text-to-speech (TTS). It does this using either locally installed TTS files or, for subscription IP Office systems, TTS provide by Google services.

- Google TTS does not require any installation, just configuration of the Speech UI setting in the IP Office system configuration. When configured, Google TTS overrides locally installed TTS.
- The process below covers the installation of local TTS files. The TTS languages are downloadable as 3 separate ISO images. You need to upload and install the additional languages on the server or servers running Voicemail Pro.

Warning:

- TTS files from pre-12.1 releases are not compatible with R12.1.

Checking the TTS Languages Installed

1. Access the server's web control/platform view menus.
2. Select **Updates**.
3. In the list of **Services**, each TTS language is shown with the prefix TTS.

Downloading the TTS Languages

You can download the TTS files from Avaya Support:

1. Select the IP Office release and locate the release with links for the TTS ISO files.
2. Download the ISO image or images containing the languages required:
   - **Disk 1:** English, French, German, Italian, Spanish.
   - **Disk 2:** Danish, Dutch, Finnish, Greek, Norwegian, Portuguese, Swedish.
   - **Disk 3:** Chinese, Polish, Russian.
3. Extract the individual RPM installation files from the ISO files by treating them as zipped archives.

Adding a New Language

Warning:

- This process causes the voicemail service to restart, ending all calls it is handling.

1. Access the server's web control/platform view menus.
2. Select **Settings | General**.
   a. In the **Software Repositories** section, click on the **Browse** button for **Application**.
   b. Browse to and select the RPM file for the required language and click **OK**.
   c. Repeat for any other TTS languages you require.
3.
4. Click **Add**.

5. Select **Updates**.
    a. In the **Services** section, locate the newly added TTS language.
    b. Click **Install**.
    c. When the installation is complete, repeat for any other TTS language file you added.

Related links

Voicemail Server Configuration on page 100

Downloading and installing the Voicemail Pro client

About this task

The Voicemail Pro client can be downloaded and installed from the web-control menus of a server. The client is a Windows application.

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.
2. Click **AppCenter** tab.
3. In the **Download Applications** section, click the `.exe` file link for Voicemail Pro client.
4. Download the file following the process used by your browser.
5. Once the file has been downloaded, run the `.exe` file to install the client.

Related links

Voicemail Server Configuration on page 100

Enabling Voicemail Pro client connection

About this task

Connection to the voicemail service by the Windows Voicemail Pro client can be enabled or disabled. This process enables connection.

Procedure

1. Login to the server hosting the voicemail service.
2. Select **Applications** > **Voicemail Pro - System Preferences**Applications | Voicemail Pro - System Preferences.
3. Select the **General** tab.
4. Change the status of **Enable Voicemail Pro Client Interface** to allow connection using the client.

Related links

Voicemail Server Configuration on page 100

Logging into Voicemail Pro server

Before you begin

To log into a Voicemail Pro server you should configure an *Administrator* user name and password on theVoicemail Pro server. The default user name for Voicemail Pro server is *Administrator* and the password is *Administrator*.

Note:

To ensure that the system is secure you must always change the default password.

About this task

To log into Voicemail Pro server using Voicemail Pro client, do the following:

Procedure

1. Click **Start**.
2. Select **Program** >**IP Office** > **Voicemail Pro Client**.

   The system displays Select Voicemail Pro Client Mode window. If you started the client before, the system attempts to start in the same mode that you used earlier. If you start the client for the first time, the system displays the Select Voicemail Pro Client Mode dialog box.
3. Select **Online**.

   The system displays VmPro Login dialog box.
4. Type *Administrator* in the **User Name** field.
5. Type the pass word in the **User Password** field.

   The default password is *Administrator*.
6. Type the IP address of the voicemail server in the **Unit Name \ IP Address** field.

   You can also click **Browse** to search for Voicemail Pro server in the local network.
7. Click **Login**.

   Note:

   After three unsuccessful attempts to login as an *Administrator* the system locks the *Administrator* account for an hour.

Next steps

Change the default password for Voicemail Pro *Administrator* account.

1. In the Voicemail Pro client, select **File** > **Change Password**.

2. Type the new password in the **New Password** and **Verify New Password** fields.
3. Click **OK**.

Related links

Voicemail Server Configuration on page 100

Backing up and restoring voicemail

Backing up Voicemail Pro

You can take a backup of voicemail, user settings & greetings, call flows, modules and conditions, module recordings, campaigns, and system settings on a local drive. You can take backup once everyday, every week or every month.

Note:

To perform a backup and restore always use Web Manager. For more information, see Backing up and restoring the server on page 129 . If you use Voicemail Pro to backup and restore, the system does not provide the integrations.

About this task

To take a backup of the voicemail server do the following:

Procedure

1. Launch Voicemail Pro client.
2. Log in as *Administrator*.
3. Select **Administration** > **Preferences** > **General**.
4. Click the **Housekeeping** tab.
5. Click **Backup Now**.

   The system displays the various backup options. For more information on the backup settings, see the *Administering Voicemail Pro* document.
6. Click **OK** to start backup.

Related links

Voicemail Server Configuration on page 100

Restoring Voicemail Pro stored on IP Office Server Edition server

You can restore the voicemails, user settings & greetings, call flows, modules and conditions, module recordings, campaigns, and system settings that were backed up on a local drive.

Note:

Use this procedure to restore voicemail backups for the Release 8.0, 8.1 and 8.1 FP1. To restore the voicemail backup of Release 9.0 always use Web Manager. For more information, see Restoring IP Office Server Edition server. on page 106

Before you begin

- Ensure that you shutdown all the services on the server.
- Start Linux Platform settings.
- Login as *Administrator*.

Ensure that you shutdown all the services on the server.

About this task

To restore a backup file that is stored on IP Office Server Edition server:

Procedure

1. Select **Settings** > **General**.
2. Select **Restore** in the **Backup and Restore**.

Note:

You can only restore the backup files for the voicemail using Linux Platform settings. You can restore a complete backup data set. You cannot select a particular item that needs to be restored.

Result

The system displays a list of backup files, select the backup file you want to restore.

Related links

Voicemail Server Configuration on page 100

Migrating Voicemail Pro to IP Office Server Edition

Related links

Voicemail Server Configuration on page 100
Backing up an existing Voicemail Pro server on page 105
Restoring Voicemail Pro not stored on IP Office Server Edition server on page 106
Backup and restore limitations on page 107

Backing up an existing Voicemail Pro server

When you replace an existing Voicemail Pro server with IP Office Server Edition server you must take a backup of all the settings, prompts and messages from the existing server. If the existing server is a Linux based server, you must use SSH file transfer to retrieve the backup files from the server. If the existing server is a Windows based server you copy the backup files on a folder in the server and then use the SSH file transfer to migrate the back up files to IP Office Server Edition server.

About this task

To take backup of an existing Voicemail Pro server:

Procedure

1. Log in to Voicemail Pro server using Voicemail Pro client.

   You can use the **File**> **Voicemail Shutdown** > **Suspend Calls** to display the number of voicemail sessions that are active. You can stop any new sessions or end the sessions before to take a backup.
2. Select **Preferences** >**General**.
3. Click the **Housekeeping** tab.
4. Select **Backup Now**.
5. Select all the backup options for a complete backup and click **OK**.

   The time take to complete a backup varies depending on the number of mailboxes and messages that Voicemail Pro server supports.

   The system creates a backup of folder. The name of the folder includes the date and time of the backup and Immediate. For example, *VMPro_Backup_26012011124108_Immediate*.

Next steps

Shutdown the voicemail server:

1. Select **File**>**Voicemail Shutdown** > **Shutdown**.
2. Select **Shut Down Immediately**.

Related links

Migrating Voicemail Pro to IP Office Server Edition on page 105

Restoring Voicemail Pro not stored on IP Office Server Edition server

Before you begin

Ensure that you shutdown all the services on the server.

About this task

To restore a backup file that is not stored on IP Office Server Editionserver:

Procedure

1. Connect to IP Office Server Edition using an SSH File transfer tool.
   a. Type the IP address of IP Office Server Edition server in the **Host Name** field.
   b. Type the **User Name** as `Administrator`.
   c. Set the **Protocol** as **SFTP/SSH**.
   d. Set the **Port** as **22**.

      When you connect to IP Office Server Edition using an SSH File transfer tool for the first time the system prompts you to accept the trusted key. Accept the trusted key.

e. Type the password for the *Administrator*. The default password for the *Administrator* is `Administrator`.

2. Copy the backup folder in the `/opt/vmpro/Backup/Scheduled/OtherBackups`.
3. Login as an Administrator into IP Office Server Edition using the Web Control Panel.
4. Select **Settings** > **General**.
5. Select **Restore** in the **Backup and Restore**.

Note:

You can only restore the backup files for the voicemail using the Web Control Panel. You can restore a complete backup data set. You cannot select a particular item that needs to be restored.

Result

The system displays a list of backup files, select the backup file you want to restore.

Related links

Migrating Voicemail Pro to IP Office Server Edition on page 105

Backup and restore limitations

If you have created extra folders on the Voicemail Pro server, in IP Office Server Edition server these folders are not included in the restore process. Instead the extra folders need to be copied manually. For example, if you created a folder containing custom prompts for use in call flows in addition to the default language folders used for prompts, then the system does not backup or restore the custom folder. To resolve this, the extra folders must be backed up and restored manually. In the following example, a folder *Custom* is manual copied from an existing server to create a backup. It is then manually restored.

Before you begin

Using SSH file transfer tool copy the folder *Custom* from `/opt/vmpro` in the old server to your computer to create a backup of the folder.

About this task

To restore the *Custom* folder, using an SSH file transfer tool, copy the folder to the `/home/Administrator` folder on the IP Office Server Edition server:

Procedure

1. Login to the command line interface of the system using the root user password. You can log in directly on the IP Office Server Edition server or remotely using an SSH File transfer tool.
   - Log in directly to the IP Office Server Edition server:
     a. At the `Command:` prompt, type `login`
     b. At the `login:` prompt, type `Administrator`
     c. At the `Password:` prompt, type the default password `Administrator`

- Log in as `Administrator` using the SSH file transfer tool.

  . The default password is `Administrator`

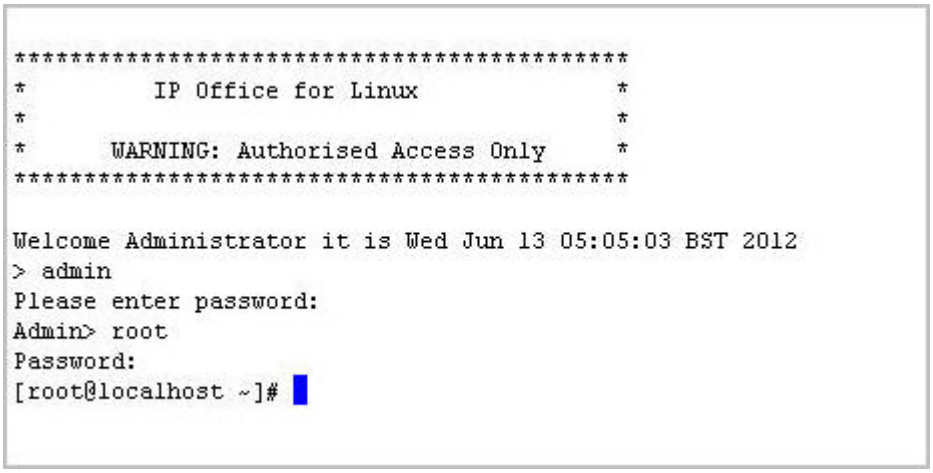
2. In a new terminal window at the command prompt, type `admin`

   The system prompts for a password. The default password is `Administrator`

3. At the `Admin >` prompt, type `root`

4. Type the `root` password. The default password is `Administrator`

   The system displays the root user prompt. For example, `root@<name of the server>`



5. Type `cd /home/Administrator`
6. Type `mv Custom /opt/vmpro`

Next steps

Using the SSH file transfer tool, verify that the *Custom* folder has been copied to `/opt/vmpro`

Related links

Migrating Voicemail Pro to IP Office Server Edition on page 105

Chapter 15: one-X Portal Configuration

For the primary and secondary servers in a Server Edition network, the portal services is normally automatically configured and started. The processes in this section of the documentation are typically only needed for the installation of an IP Office Application server.

Related links

[one-X Portal Service Initial Configuration](#) on page 109
[Configuring one-X Portal for IPv6 support](#) on page 111
[Configuring portal users](#) on page 112
[Administering a standalone portal server](#) on page 112
[If the Portal Server Status Remains Yellow](#) on page 113

one-X Portal Service Initial Configuration

For the primary and secondary servers in a Server Edition network, the portal services is normally automatically configured and started. The processes in this section of the documentation are typically only needed for the installation of an IP Office Application server.

Procedure

1. Open a web browser and enter `https://` followed by the IP address of the IP Office Application Server and then `:9443/onexportal-admin.html`.
2. The login menu appears. If the message “System is currently unavailable - please wait” appears, the one-X Portal for IP Office application is still starting. When the message disappears, you can login.
3. Enter the default administrator name (Administrator) and password (Administrator) and click **Login**.
4. The **License Agreement** page appears. When you have read the license, select **Have Read & Agree** and then click on **Next**.
5. The menu now allows entry of the IP address of the IP Office system to which you want the portal to connect.
   - In the following menus, the Status icon is used to show/hide status messages about the installation process.

- You can enter the addresses of multiple IP Office systems in your network. For IP Office Release 10 and higher, you can enter just one address. The one-X Portal for IP Office is informed by that system about the others systems in the network and about the voicemail server. However, this takes a while to occur after initial installation and assumes that the security settings of all the systems are the same. If you want to configure portal resiliency at this stage, enter the address of both the primary and secondary IP Office systems.

6. Enter the addresses in the form and select **Check IP Office(s)**. The one-X Portal for IP Office server will attempt to connect to each of the indicated systems. The amber background will change to green is this is successful.
7. Click on **Advanced Installation** and expand the **Advanced Provider Options** section.
   a. Select **Telephony (CSTA)**. If you changed the password used for the IP Office system's **EnhTcpaService** user, set the same password here.
   b. Select **Directory (IP Office)**. Check that the provider address and port match those expected.
   c. If the customer has an LDAP directory source that they want used for the external directory, select **Directory (LDAP)**. Enter the details for the LDAP connection.
   d. Select **VoiceMail-Provider**. Enter the IP address of the voicemail server. If the application server is running the voicemail service, set this to the IP address of the application server.
   e. Select **IM/Presence**. Enter the DNS domain name that the server should use for IM/presence service.
8. Note: This step is only possible if the addresses of both the primary and secondary IP Offices were entered at the start. If the application server is going to be used to support a Server Edition network, expand the Resiliency Configuration option. In a Server Edition network, separate portal services can be associated with the network's primary server and its secondary server. While normally only the primary portal server is active, the secondary can become active if the primary is unavailable for some reason. For further details of portal resiliency, refer to the Administering Avaya one-X Portal for IP Office manual.
   a. If the application server is supporting the primary server in a Server Edition network and portal resilience is required, select **Primary**.
   b. If the application server is supporting the secondary server in a Server Edition network and portal resilience is required, select **Secondary**.
   c. Complete the table of addresses for the primary and secondary portal and IP Office services.
9. Click on **Configure for IP Office(s)**. The one-X Portal for IP Office server will connect with each IP Office and automatically extract details of the IP Office users. If **Simple Installation** was selected, the installer will go through this and the following steps automatically. If **Advanced Installation** was selected, the installer will require you to select **Next** after each step.
10. Having extracted user details, the one-X Portal for IP Office server extracts directory details from the IP Office systems.

11. The one-X Portal for IP Office server now prompts you to change the password used for administrator access.
    a. Enter a new password and click **Change Password**. The initial configuration is complete. Note that it will still be at least another 5 minutes before the one-X Portal for IP Office is usable by end users.
    b. You now have access to the one-X Portal for IP Office administration menus. For full details refer to the Administering one-X Portal for IP Office manual.
12. Click on **Log Out**.
13. Click on **User Login** shown top-right.
14. The login window will display System in currently unavailable. When this message is no longer displayed, attempt to login as a user.

Related links

one-X Portal Configuration on page 109

Configuring one-X Portal for IPv6 support

The one-X Portal does not directly support IPv6 addresses. Therefore, to support clients which use one-X Portal for services, for example Avaya Workplace Client, you must ensure that the one-X Portal is configured with an FQDN.

Important:

- This process requires you to restart the one-X Portal service. That will end all current connections to the one-X Portal.

Procedure

1. Login to the one-X Portal administration menus on the primary IP Office server or IP Office application server running the one-X Portal service..
2. Select **Configuration** > **Host Domain Name**.
3. Set the **Primary Host Domain Name** to the servers FQDN.
4. If applicable, set the **Secondary Host Domain Name** to FQDN of that server.
5. Click **Save**.
6. Restart the one-X Portal service.

Related links

one-X Portal Configuration on page 109

Configuring portal users

Portal only supports users with an appropriate user profile licensed by license file or subscription.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Select **Call Management** > **Users**.
3. Select the user you want to edit.
4. Check that their **Profile** is set to one of the following: **Office Worker**, **Teleworker**, **Power User** or **Unified Communications User**.
5. Select **Enable one-X Portal Services**.
6. Click **Update**.

Related links

one-X Portal Configuration on page 109

Administering a standalone portal server

By default the Server Edition Primary uses its own portal service running on the same server. However, where required a separate IP Office Application server running portal can be installed, referred to as a 'standalone portal server'. The primary server is then configured to use the portal service on the standalone server.

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.
2. Select **Settings** > **General**In the tab select .
3. In the **one-X Portal Settings** section, clear **Use Local IP**.
4. Select **System** > **Services**.
5. Click **Stop** to stop the services of Avaya one-X® Portal for IP Office on Server Edition Primary server.
6. Clear **Auto Start** for Avaya one-X® Portal for IP Office on Server Edition Primary server.
7. Go to **Settings** > **General**.
8. In the **one-X Portal Settings** section, type the IP address of the separate Avaya one-X® Portal in the **Remote IP** field.
9. Click **Save**.
10. In the **Home** tab, click **one-X Portal**.

Related links

one-X Portal Configuration on page 109

If the Portal Server Status Remains Yellow

The most likely cause for the one-X Portal for IP Office service not working and remaining yellow in the platform view of the services is a password mismatch. The mismatch is between the EnhTcpaService service user in the IP Office system's security settings and two of the providers within the portal configuration (the **Default-CSTA-Provider** and the **Default-DSML-IPOProvider**).

This password mismatch causes the IP Office to automatically lock the EnhTcpaService user account.

Procedure

1. Change the portal provider passwords to the new, strong password:
    a. Login to the portal services administrator menus. You can do this by logging in to the portal server's Web Manager menus, clicking on **Applications** and selecting **one-X Portal**.
    b. Click **Configuration** and select **Providers**.
    c. Set the **Provider Name** field to **Telephony (CSTA)**.
    d. Click on the edit icon next to the listed provider.
    e. Set the **Password** and click **Save**.
    f. Set the **Provider Name** field to **Directory (IP-Office)** and repeat the process.
2. Stop the one-X Portal for IP Office service:
    a. Login to the server's web manager menus.
    b. From the **Solution** page, click on the icon next to the portal server and select **Platform View**.
    c. Stop the **one-X Portal** service. Wait until the status icon changes to red.
3. Change the password of the **EnhTcpaService** service user:
    a. Click on **Security Manager** and select **Service Users**.
    b. Click on the edit icon for the **EnhTcpaService** user.
    c. Set the **Password** to the same as was set for the portal providers above and click **Save**.
    d. Change the **Account Status** back to **Enabled**.
    e. Click **Update**.

4. Restart the one-X Portal for IP Office service:
    a. Select the platform view for the portal server again.
    b. Start the **one-X Portal** service. Wait for the status icon to change to green. This can take up to 5 minutes.

Related links

one-X Portal Configuration on page 109

Chapter 16: Avaya one-X Portal WebRTC Configuration

This section refers to the **WebRTC Gateway** service running on the same server as the **one-X Portal** service. This service is used for WebRTC clients that connect though Avaya one-X® Portal for IP Office. For remote clients, refer also to Deploying Remote IP Office SIP Phones with an ASBCE

Supported clients are:

- The Avaya one-X® Portal for IP Office Chrome browser client.
- The Avaya Spaces Chrome browser extension for Space Calling.

Note:

- IP Office User Portal uses the separate WebRTC gateway provided by the IP Office service rather than Avaya one-X Portal.

System Requirements

- IP Office Release R11.0 or higher.
- For non-IP Office Subscription mode IP500 V2 system, licenses to support Avaya one-X Portal.

User Requirements

- The user browser needs to be configured with the server certificate.
- Windows or macOS Chrome.
- PC with speaker and microphone. Optional camera for video calls.
- Configured as Avaya one-X Portal user.

Related links

Enabling the WebRTC Service on page 115
Enable SIP Support on page 116
Configuring the WebRTC Gateway on page 116
Testing and Logging WebRTC on page 118
WebRTC External Client Access on page 120

Enabling the WebRTC Service

In addition to the portal service, the IP Office Web Client client uses two additional services.

Procedure

1. Login to the server's web configuration menus.
2. Click **Solutions**.
3. In the displayed list of systems, click on the icon next to the required system and select **Platform View**.
4. Click on **Show optional services**.
5. Check that the **WebRTC Gateway** service is ticked to automatically start.
6. Check that both services have started. If necessary, click the **Start** button next to each service.

Related links

Avaya one-X Portal WebRTC Configuration on page 115

Enable SIP Support

To allow the use of the WebRTC clients, the IP Office system needs to be configured as a SIP registrar to support SIP extensions. This is then used from the media connection between the IP Office service and the WebRTC Gateway service.

Related links

Avaya one-X Portal WebRTC Configuration on page 115

Configuring the WebRTC Gateway

The following settings are for the WebRTC gateway service being run by the application server.

Procedure

1. Login to the server's web configuration menus.
2. Click **Solutions**.
3. Click **Applications** and select **WebRTC Configuration**.

   Important:

   - To access the WebRTC Gateway configuration settings in IP Office Web Manager, you must login using an account that belongs to a security rights group that has WebRTC Gateway Administrator rights enabled. That is configured through the servers security setting using IP Office Manager.
4. On the **System Settings** menu, check the settings:

Setting	Description
Network Interface	For information only. This is the server interface used by the gateway service.
Local IP Address	For information only. This is the current IP address associated with the selected Network Interface.
Gateway Listen Port	This is the port on which the gateway listens for any incoming calls from the IP Office system. This setting is used when configuring an application server for operation with an IP500 V2.
SIP Trunk Listen Port	This is the port on which the gateway listens for SIP trunk connections from the IP Office system. Not currently used.
Logging Level	This sets the level of logging used by the gateway. The log files, prefixed WebRTCGateway, can be downloaded through the server's web control/platform view menus (**Logs** > **Download**). The default setting is **Info**.
Allow Origins	This field sets the domains and/or IP addresses from which the WebRTC gateway service will accept web socket (IP Office service) connections. Multiple entries can be added, each separated by ; semi-colon.

5. Click **Save** to save any changes.
6. On the **SIP Server Settings** menu, adjust the settings to match the SIP extension configuration of the IP Office system:

Setting	Description
Configuration Mode	For Server Edition servers, the **Automatic** setting can be used. That automatically configures the gateway to match other IP Office service settings. For an application server, select **Manual**.
Domain Name	Set this field to match the domain name configured in the SIP Registrar settings of the IP Office system.
Private IP Address	Set this to the address of the IP Office system configured as the SIP registrar for WebRTC client users.
Private TCP Port **Private UDP Port** **Private TLS Port**	Set these fields to match the protocol ports configured for the SIP registrar on the IP Office.
Public IP Address	Leave this set to 0.0.0.0 to use the application server's IP address.
Public TCP Port **Public UDP Port** **Public TLS Port**	Use these fields to set the ports that should be used for each protocol by client applications.
Transport Type	Select the protocol that the gateway and clients should use. This must match the Layer 4 Protocol settings of the IP Office SIP Registrar . • Do not enable a protocol unless it is intended to be used. Most phones and clients only use the first enabled protocol they support, in the order TLS, TCP, UDP. They will not rollover to another enabled protocol if problems are encountered in previous protocol.

7. Click **Save** to save any changes.

8. Select the **Media Gateway Settings** menu and adjust the settings if required:

Setting	Description
RTP Port Range (Private)	These fields set the minimum and maximum RTP ports for connections between the gateway services and the IP Office system.
RTP Port Range (Public)	These fields set the minimum and maximum RTP ports for connections from the WebRTC clients. If supporting external clients, these ports should be allowed for routing to the gateway server in the customer's external firewalls. Ensure that these do not overlap with the RTP port range configured for the IP Office SIP registrar.
Codecs - Audio	Use this list to adjust the order of codec preference. It is recommended that both the PCM codec choices are kept at the top of the list.
Codecs - Video	Currently VP8 is the only supported video codec.
DTMF Payload Type	Default = 101 This field set the default value for RFC2833 payload negotiation. This value is used with clients and services that do not support dynamic payload negotiation.
STUN/TURN Settings The following setting allow the media gateway to be used with external clients via STUN and TURN servers. If enabled, the settings need to match the STUN/TURN server. For details of doing this with an Avaya Session Border Controller for Enterprise, refer to the "IP Office SIP Phones with ASBCE" manual.	
STUN Server Address	Default = 0.0.0.0 (Disabled) The gateway service can use STUN to attempt to resolve issues caused by network address translation (NAT) being applied to traffic between it and external clients. The gateway attempts to use STUN if a STUN server address is set.
STUN Server Port	Sets the port used for connection to the STUN server. The default is 3478.
TURN Server Address	Default = 0.0.0.0 (Disabled) The gateway service can use TURN to attempt to resolve issues caused by network address translation (NAT) being applied to traffic between it and external clients. Unlike STUN, all traffic is routed via a TURN server. The gateway attempts to use TURN if a TURN server address is set.
TURN Server Port	Sets the port used for connection
TURN User Name **TURN Password**	Enter the name and password of the account on the TURN server if authentication is being used.

9. Click **Save** to save any changes.

Related links

Avaya one-X Portal WebRTC Configuration on page 115

Testing and Logging WebRTC

You can obtain log messages from the WebRTC Gateway service.

Related links

Avaya one-X Portal WebRTC Configuration on page 115
Setting the Server's Logging Level on page 119
Downloading Server Log Files on page 119
Viewing WebRTC Log Messages on page 119
Running the WebRTC Test Application on page 120

Setting the Server's Logging Level

You can adjust the level of details recorded by the server in its WebRTC log files.

Procedure

1. Login to the server's web manager menus. See Starting Web Manager on page 146.
2. Click **Solution**.
3. Click **Applications** and select **WebRTC Configuration**.
4. On the **System Settings** menu, set the **Logging Level** required.
   - **Info** is the normal level for an operating system.
   - Select **Debug** when necessary to resolve existing issues.
   - **Trace** provides maximum detail if **Debug** proves insufficient to resolve the issue.
5. Click **Save** to save any changes.

Related links

Testing and Logging WebRTC on page 118

Downloading Server Log Files

Use the following process to download the server's WebRTC log files.

Procedure

1. Access the server's web control menus. See Accessing the Server's Web Control Menus on page 147.
2. Click on **Logs** and select the **Download** sub tab.
3. Click on the **Create Archive** button.
4. Download the **WebRTC Gateway** log file from the list.

Related links

Testing and Logging WebRTC on page 118

Viewing WebRTC Log Messages

The WebRTC Gateway server includes a packet monitoring service. You can use this service to view WebRTC messages as they occur or to view the contents of downloaded WebRTC log files.

Procedure

1. Browse to `http://<server_address>:9443/netz`.
2. Select the function required:
   - For **Live Monitoring**, login with the user name/password details of a WebRTC client user.
   - To display packet information previously downloaded in RTCmon log files, select **Offline Analyzer**
3. Click **Start** to collect and display data on the clients WebRTC calls.

Related links

Testing and Logging WebRTC on page 118

Running the WebRTC Test Application

To check basic WebRTC client connection, the WebRTC Gateway service includes a simple test application. You can also use this to generate log traffic in the WebRTC logs to investigate issues.

Procedure

1. Browse to `http://<server_address>:9443/PhoneService`.
2. Login using the user details of a user configured for portal use.

Related links

Testing and Logging WebRTC on page 118

WebRTC External Client Access

External client access uses the following ports. These ports need to be enabled and correctly routed to the WebRTC Gateway:

- TCP/HTTPS/Web Socket access on port 9443. Not adjustable.
- TCP or TLS on the public ports range set in the WebRTC Gateway service configuration. The defaults are 56000 to 58000.
- To handle address translation between the external and internal networks, the WebRTC Gateway supports STUN and TURN.
- The devices used must also support the security certificate CA chain as the WebRTC Gateway.

Using an Avaya Session Border Controller for Enterprise

All the above requirements can be configured on an Avaya Session Border Controller for Enterprise. Refer to the Deploying Remote IP Office SIP Phones with an ASBCE manual.

The basic steps required are:

1. Enable STUN and TURN operation on the Avaya Session Border Controller for Enterprise and in the WebRTC Gateway settings.
2. Create a reverse proxy policy for HTTPS connections to the server hosting the WebRTC Gateway service.
3. Add security certificates that use the same CA source to the ASBCE and create a TLS profile that uses those certificates.

Related links

Avaya one-X Portal WebRTC Configuration on page 115

Part 8: Backup/Restore

Chapter 17: Backup and Restore

This chapter looks at how the web manager menus can be used to configure backup and restore operation between servers.

- If the IP Office server hard disk has sufficient capacity, you can use it to receive backups from other IP Office servers. However, this is not a suitable solution for its own backups. Therefore, the recommendation is to backup to another IP Office server.
- Within a primary/secondary server pair, you can configure reciprocal backups.
- The preferred option is a separate backup server. This can be done by installing an IP Office Application server with a sufficiently large hard disk (see Disk space required for backups on page 126) and no services (Voicemail Pro and Avaya one-X Portal) enabled.

Warning:

- Backup/restore is not supported between different server software release levels. Any exceptions are specifically documented in software release notes and migration documents.
- You cannot restore data to a server unless either the IP Address or the system id (LAN1 MAC address) match the server from which it was backed up.
- Backup and restore action must only be performed using servers inside a secure, trusted network.

Related links

Backup and restore policy

It is essential to implement a comprehensive, robust and secure backup policy as part of a Business Continuity plan before any failure or other data restoration requirement. It is not possible to define a single approach that would meet all possible customer needs. Each installation should be assessed and an backup policy implemented. .

Backup Key Information

The backup process supported by web manager only includes specific data, see Backup data sets on page 127. There is key information which, though included in the backup data, should also be recorded separately in case it is necessary to rebuild a failed sever:

- The ignition settings for each server should be recorded. For example, IP address and host name settings, server role, etc. These details may be required if a full reinstallation of the server becomes necessary before any data restoration operation.

In addition, the following are not included in the web manager backup processes and so must be backed up using other manual processes.

- Copies of any PLDS license key files used by the system.
- If using web manager to load custom voicemail prompts, copies of those prompt files.
- Copies of any custom phone settings files plus phone screen saver and background images.

Backup Schedule

In addition to performing backups before major system changes such as an software upgrade, you must consider having a regular backup schedule.

- Periodic configuration backup for every IP Office.
- Periodic configuration backup for one X Portal – Server Edition Primary server and Application Server only
- Periodic configuration backup for Voicemail Pro – Server Edition Primary server only
- Periodic voice mailbox and recording data backup – Server Edition Primary server only
- The period and number of unique instances selected should reflect the frequency of change, the consequence due to data loss, and the storage capacity of the backup data server. It should also be bourne in mind that the backup server used will only retain up to 14 backups, after which any further backup will cause the automatic deletion of the oldest previous backup.
- The timing of backup operation: This should be done when little or no traffic is present on the target system(s), but the backup process itself is not service-affecting.

Additional Backup Options

This documentation only looks at the backup/restore process provided through the server's own web manager menus. The IP Office Manager and Voicemail Pro client application also provide methods for backing up the current IP Office service configuration and the voicemail configuration/ mailbox contents respectively. Therefore also consider:

- Manual backup of the IP Office service configurations before major configuration changes.
- Manual backup of the Voicemail Pro before major configuration changes.

Related links

Backup and Restore on page 123

Backup and restore protocols

Backup and restore is only supported using another IP Office server as the backup server. If necessary, an IP Office Application Server can be installed without enabling the Voicemail Pro and one-X Portal for IP Office services on that server.

Warning:

- Backup and restore action must only be performed using servers inside a secure, trusted network.

The server being backed up requires a remote server connection to the backup server. That connection is configured with the settings below (see Creating a remote server connection on page 129). For a set of networked servers, the connection from the primary server is used for all the servers.

Protocol	Port	Path	User Name/ Password	Notes
HTTPS	5443	`/avaya/backup`	none	HTTPS backup is enabled by default.
HTTP	8000	`/avaya/backup`	none	HTTP backup is disabled by default. To enable it on the backup server, see Enabling HTTP backup support.
SFTP	22	`/var/www/html/avaya/backup`	Administrator account.	–

Related links

Backup and Restore on page 123

Enabling HTTP backup support

By default, HTTP support for backup/restore is disabled. You can enable it using the following process on the backup server.

Security alert:

- Backup and restore action must only be performed using servers inside a secure, trusted network.

Enabling HTTP Backup Support on the Backup Server

1. Login to the web manager menus of the backup server.
2. Select the servers **Platform View** option.

3. Within the platform view menus, select **Settings** > **System** > **HTTP Server**.
4. Select the **Enable HTTP file store for backup/restore** option and click **Save**.

Related links

Backup and Restore on page 123

Disk space required for backups

The space required for a backup is highly variable. It depends on the number of servers includes in the backup and the data sets selected. However, the largest and most significant backup is that required for voicemail.

The following tables show the potential space required for a worst case full backup. That is, one that assumes all the users have used their voicemail mailbox and other facilities to their maximum capacity.

The minimum disk size column indicates the disk hard disk size required to have a sufficiently large backup quota (see above) for at least one maximum full backup.

Backup for a Sever Edition Network

Users	Maximum Full backup	Minimum Backup Server Disk Size
100	35GB	160GB
750	78GB	214GB
1500	127GB	275GB
2000	158GB	320GB
2500	189GB	360GB

Backup for an IP Office Application Server/UCM

Users	Maximum Full backup	Minimum Backup Server Disk Size
20	30GB	160GB
50	32GB	160GB
100	34GB	160GB
150	37GB	165GB

Related links

Backup and Restore on page 123

Checking the backup server’s backup quota

Backup is supported to a server with a hard disk of 160GB or larger. The actual portion of that space, the backup quota, available for backup usage can be checked using the process below. On servers with a smaller hard disk, no backup quota is supported.

Estimating the Backup Quota

The approximate space that will be allocated for the backup quota can be calculated as follows:

- Backup Quota = (0.8 x Hard Disk Capacity) – 92GB if the Hard Disk Capacity is greater than 160GB, otherwise zero.
  - The capacities are all approximate. The quoted disk capacity from a disk manufacturer or a virtual server platform will differ from the capacity reported by the operating system.
  - For example: For a 500GB hard disk, the backup quota is approximately 308GB.

Checking the Backup Server’s Backup Quota

Once a server is installed, the actual space allocated for backups can be checked as follows:

1. Login to the backup server's web manager menus.
2. Click and select **Platform View**.
3. On the **System** tab, note the **Quota available for backup data** value. Note this is the total space usable for backups, it does not account for the space already used by any existing backups.
4. Click **Solution** to exit the platform view.

Related links

Backup and Restore on page 123

Backup data sets

Each backup can include multiple selected servers. Within that backup a number of different data sets can be selected for inclusion in the backup.

The table summarizes the data included in the different backup data sets. Some data sets are greyed out if the related service is not running on one of the servers included in the backup.

When performing a restore it is also possible to select which servers and which data sets are included in the restore operation.

Data Set	Options	Contents
IP Office Sets	**IP Office Configuration**	When selected for Linux-based IP Office servers: • Server Settings • Web Management Settings • IP Office Service Configuration • IP Office Security Settings • DHCP Allocations • Call logs When selected for IP500 V2 Expansion systems: • IP Office Configuration • IP Office Security Settings • DHCP Allocations • Call logs
one-X Portal Sets	**one-X Portal Configuration**	one-X Portal server settings
Voicemail Pro Set	**Voicemail Pro Configuration**	• Voicemail Pro server preferences • Call flows
	Messages & Recordings	• Voicemail mailbox contents
	Voicemail Pro Full	• Voicemail Pro server preferences • Call flows • Mailbox contents including greetings, announcements and name prompts. Note: This does not include any custom prompts from the Web Manager customer prompts folder. Separate manual copies of those prompts must be kept.
	Selective Voicemail Users	This option backups a group of preselected mailboxes. The mailbox group is specified through **Applications** > **Voicemail pro — System Preferences** > **User Group**.
WebLM Sets	**WebLM Configuration**	Note that this data set does not include the license file being used by the server. A separate manual copy of any license file uploaded to the system should be retained.
WebRTC Sets	**WebRTC Configuration**	
Media Manager Sets	**Media Manager Configuration**	This is the configuration of the Media Manager service only. It does not include the call recordings and other data stored on the additional hard drive used for Media Manager.

Related links

Backup and Restore on page 123

Creating a remote server connection

Once the backup server has been configured, a remote server connection is required on the server to be backed up. In a network of servers, the remote connection s defined on the primary server.

Procedure

1. In the Web Manager menu bar, click **Solution**.
2. Click **Solution Settings** and select **Remote Server**.
3. Click **Add Remote Server**.
4. Enter a name that identifies the connections use.
5. Set the **Protocol** to **HTTPS**, **HTTP** or **SFTP** as required.
   - These are the only protocols supported for backup/restore operations.
   - **HTTP** is only supported if the backup server has had HTTP enabled. See Enabling HTTP backup support on page 125.
6. Set the **Port** to match the selected protocol. The default ports are not necessarily correct.
   - For **HTTPS**, set the port to 5443.
   - For **HTTP**, set the port to 8000.
   - For **SFTP**, set the port to 22.
7. Set the **Remote Path** to `/avaya/backup`.
8. For **HTTP**/**HTTPS**, no **User Name** or **Password** details are required. For SFTP, use the details of a Web Manager administrator account.
9. Click **Save**.
10. The new remote server connection is now shown in the list of remote servers. It can now be selected for backup and restore actions.

Related links

Backup and Restore on page 123

Backing up a server/servers

The system backs up the configuration of the server, application and user data in a single file set. You can use this backup file to restore the server or a failed server upgrade. The system backs up the configuration of the application to a local drive, in a predefined directory. You can take a backup of the primary server on a remote file server, which can optionally be the secondary server.

Before you begin

- Create a remote server connection for the backup server. See Creating a remote server connection on page 129.

About this task

You can take a back up of the primary server on a remote file server using Web Manager:

Procedure

1. In the Web Manager menu bar, click **Solution**.
2. In the Solution page, select the servers that you want to backup.
3. Click **Actions** and select **Backup**.
4. Select which data sets you want to include in the backup. See Backup data sets on page 127 for details of the different sets contents.
5. In the **Backup Label** field, type a label for the backup.
6. In **Select Remote Server** drop down list, select the remote server that you have set.
7. To back up at a scheduled time:
    a. In **Select Remote Server** drop down list, select the remote server that you have set.
    b. Under **Schedule Options**, enable **Use Schedule**.
    c. In the **Select Schedule** list, select the schedule option that you created.
    d. Set a **Start Date** and a **Start Time**.
    e. To configure a recurring backup, set **Recurring Schedule** to **Yes** and then set the **Frequency** and **Day of Week**.
8. Click **OK**.
9. The progress of the backup process is shown on the **Solution** menu.

Related links

Backup and Restore on page 123

Restoring from the backup server

The following process is used to restore previously backed up data.

Warning:

- Backup/restore is not supported between different server software release levels. Any exceptions are specifically documented in software release notes and migration documents.
- You cannot restore data to a server unless either the IP Address or the system id (LAN1 MAC address) match the server from which it was backed up.

- Close any Voicemail Pro client before attempting a restore. The restore process requires the voicemail service to restart. That will not occur if the Voicemail Pro client is connected to the service and will lead to incorrect restoration of data.
- During the restore process, the services being restored are restarted. This will end any calls using those services.

Procedure

1. In the Web Manager menu bar, click **Solution**.
2. Select the servers onto which you want to restore data sets.
3. Click **Actions** and select **Restore**.
4. Select the **Remote Server** connection that points to the backup server.
5. Click **Get Restore Points**.
6. The system displays the backup data sets that it has for the selected servers.
7. Highlight the data sets that you want to restore.
8. Click **OK**.
9. The progress of the backup process is shown on the **Solution** menu.

Related links

Backup and Restore on page 123

Restoring a failed server

The backup data can be used to attempt to restore a server that has failed.

Procedure

1. Reinstall the original server software, ensuring that the same original IP address and host name settings are used.
2. Reignite the server back to its original role. If the server includes an additional hard drive containing call recordings for Media Manager, ensure that the option to reformat the additional drive is not selected during the server ignition.
3. Login to the server and complete its initial configuration.
4. If the server was part of a network, use the options within Manager to add it back into the network and ensure that the connections between the primary, secondary and expansions are all present.
5. At this stage, use the restore process (see Restoring from the backup server on page 130) to reload the original data.

Related links

Backup and Restore on page 123

Part 9: Upgrading Servers

Chapter 18: Server Upgrades

This section of the documentation covers the general processes for upgrade Linux-based IP Office servers.

Warning:

- Upgrading to R11.1 from any pre-R11.1 release is not supported using the methods covered in this document. Refer to the *R11.1 Release Notes* and Upgrading Linux-based IP Office Systems to R12.0 documents.

Note:

Before performing any server upgrades:

- You must obtain and check all relevant release notes and documentation prior to any upgrade.
- Ensure that you have backed up the server before performing the upgrade. See Backup and Restore on page 123.
- Some upgrades require a new set of licenses, typically when upgrading to another major release rather than to a service pack or feature pack within the current release. Obtain and install the new license file before upgrading. A license file for a higher release will still allow the existing release to continue operating.
- If the server is part of a network of IP Office servers:
  - The primary server must be upgraded first.
  - Once the primary server has been upgraded, any other servers can be upgraded individually or simultaneously.
- Upgrading will cause service disruption and end calls in progress. If possible it should be performed outside normal business hours. Using ISO transfer and upgrade through web manager is recommended as that method allows for scheduled upgrading if required.

Related links

Upgrade methods on page 134
Upgrade policy on page 135
Server Edition downgrade policy on page 137

Upgrade methods

You can upgrade Linux-based IP Office severs using a number of methods. These are:

Upgrade Method	Description
Subscription Mode System Upgrade	For subscription mode IP Office systems, upgrades can be scheduled and performed remotely using Customer Operations Manager.
Transferring an ISO file	The new release ISO file can be transferred directly to the server. See Upgrading systems using an ISO file transfer on page 139. • The ISO transfer can be performed using a number of methods. • Once the ISO file has been transferred, web manager is used to perform the upgrade. This method allows for the option of setting a scheduled upgrade.
Upgrading from a bootable USB	Upgrade using a USB memory key. See Upgrading using a USB key on page 144. This can be an attended or automatic upgrade. • An automatic upgrade proceeds without requiring any menu inputs. • An attended upgrade requires you to respond to menu prompts as the upgrade proceeds.

Related links

Server Upgrades on page 134

Upgrade policy

Minor and *Major* upgrades are supported.

Minor Upgrades

- A *Minor* upgrade is an upgrade from one release to a Service Packs (SP) in the same series.
- A *Minor* upgrade does not require pre or post upgrade activities such as database exporting/import, configuration resets. However, you must still take a full server backup as a precaution before the upgrade.

Major Upgrades

- A *Major* upgrade is an upgrade to:
  - A Feature Pack (FP) in the same series. For example, from R11.1 to R11.1 FP3.
  - From one series to the next series. For example, from R10.0 to R11.0.
- A *Major* upgrade may require additional activities before or after the upgrade. For example a database export/import, configuration resets, and so on.

Upgrades with Patches Present

Major or Minor upgrades to systems that are patched are supported. However, depending upon the patched component, the process may differ from the standard case.

- Before any activity, you must check with the group that issued the patch and review any patch notes.
- You must revert any patches before upgrading. You must do this if the Server Edition Primary server is patched, otherwise the solution upgrade will fail.

- The normal upgrade process can then be followed, including taking a backup.
- After the upgrade, if you need to reapply the original or updated patch, apply the patch as per the patch instructions.
- Perform a backup after applying the patches.

Upgrade Licenses

- Upgrading to a new release series requires a software upgrade license. For example, upgrading from R10.0 to R11.0. You can add the upgrade license before upgrading.
- Upgrading within a release series, including to a Feature Pack in the series does not require a software upgrade license. For example, from R11.1 to R11.1 FP2.
- R10.0 onwards uses PLDS licenses only. ADI licenses are no longer supported in R10.
- Pre-R11 IP Office releases supported Avaya WebLM R7 which used a 12–digit Host ID. IP Office Release 11 supports Avaya WebLM R7.1 which uses a 14–digit Host ID.
  - On upgraded systems, the old Host ID has an 03 suffix added. Customers upgrading IP Office from previous releases, must apply for the upgrade license based on the 12–digit Host Id prior to upgrading.
- When you upgrade IP Office Server Edition from R10 to R11, the WebLM password is automatically reset to default password, that is, `weblmadmin`.

Upgrade Configuration Data

IP Office component configuration data is upgraded automatically when the new version is initially executed for both major and minor upgrades. Typically new attributes are set to a default value although this is overridden in some instances. Consult the release notes of the prospective version.

Upgrading IP500 V2 Expansion Systems to Release 9.1

Existing IP500 V2 expansion systems running a release lower than R8.1.1.0 must first upgrade to R8.1.1.0 (or higher) or and R9.0 (any) before being upgraded to R9.1. The upgrade licenses for R9.1 are also valid for the lower releases.

Viewing Application Servers in Web Manager After Upgrade to Release 10

After upgrading to release R10, Application Servers are not visible on the Web Manager **Solution** page. They must be manually added.

1. On the Web Manager **Solution** page, click **Solution Settings** > **Application Server** > **Add**.
2. In the Add Application Server window, enter the **Application Server IP Address**.

Related links

Server Upgrades on page 134

Server Edition downgrade policy

Both *Minor* and *Major* Server Edition downgrades are supported, however for a major downgrade you need to install Server Edition again:

1. Review the release notes of the current version before you downgrade.
2. Take a backup of the solution backup from Web Manager of Server Edition Primary before you downgrade. The backup should include all systems, components and configuration data sets.
3. Perform downgrade when there is no traffic on the system because it affects the service of the system.
4. *Minor* downgrade is a downgrade from one previously installed minor release to another in the same series. For example: 8.1 SP to 8.1 SP or 8.1 SP to 8.1 GA
5. *Minor* Linux server downgrade can be performed using the Web Manager package manager by qualified personnel only for the following IP Office components: IP Office, Jade Media Server, Avaya one-X® Portal for IP Office, Voicemail Pro Server or client, Web Control and Web Manager. You cannot downgrade any other component.
6. You can perform a *Minor* Linux server downgrade by performing a complete reinstallation and re-ignition.
7. You can perform a *Major* Linux server downgrade, for example, a downgrade from 9.0 to 8.1 or from 9.1 to 9.0 GA only by reinstallation and re-ignition. Do not attempt to downgrade a component through the Web Manager. In addition, all servers require downgrade because IP Office Server Edition Solution does not support mixed versioning.
8. You can downgrade Server Edition Expansion System through the IP Office Manager memory card Restore command.

   After you downgrade, to restore the corresponding backup, use Web Manager.

   Note:

   For Release 8.1 when you restore the system through Web Control, the system does not restore IP Office Security settings for any device other than Server Edition Primary . To restore the IP Office configurations, use the configuration synchronization feature of IP Office Manager .
9. Ensure that all components of a Server Edition deployment have the same software version.
10. Subsequent upgrade of a *Minor* or *Major* downgrade are supported

    Note:

    Avaya reserves the right to change Server Edition downgrade policy at some time in the future.

Downgrade configuration data

When you downgrade, the system does not downgrade the configuration data of the component automatically when the new version is initially executed. You need to restore the correct configuration version or administer new configuration data.

To achieve IP Office configuration reuse where no corresponding backup data is available, use the CSV export/import feature of IP Office Manager:

- Read the latest configuration into IP Office Manager offline. IP Office Manager supports all configuration versions up to its own version.
- Export configuration using File | Import/Export | Export, CSV, All of the configuration
- Default the configuration on the target system and read into IP Office Manager.
- Import each configuration using the File | Import/Export | Import, CSV, All of the configuration.
- Check/correct errors and warnings.
- Check configuration settings are as expected.
- Send to system and check operation
- For a IP Office Server Edition Solution , the process should start with the Primary, then secondary then expansion systems. Each should be done individually using Manager in ‘standard’ not IP Office Server Edition Solution mode.

Related links

Server Upgrades on page 134

Chapter 19: Upgrading systems using an ISO file transfer

This method of upgrading consists of two stages:

1. Transfer the ISO file to the server.
2. Upgraded the server using the transferred file.

Related links

Transferring the ISO File on page 139
Upgrading using a transferred ISO file on page 142

Transferring the ISO File

Use one of the following methods to transfer the ISO file to the primary server or application server.

Related links

Upgrading systems using an ISO file transfer on page 139
Transferring an ISO file from a remote file server on page 139
Transferring an ISO file using a browser on page 140
Transferring an ISO file via SSH on page 141
Transferring an ISO file from a USB Key on page 142

Transferring an ISO file from a remote file server

You can transfer an ISO file from a file server that supports HTTP, HTTPS, FTP, SFTP or SCP.

Before you begin

- Download the ISO file for the release from the Avaya support site (https://support.avaya.com).
- Also download any related documentation from the same page as the ISO file.

Procedure

1. Login to web manager on the server.

2. Create a connection for a link to the file server:
    a. Click on **Solution Settings** and select **Remoter Server Options**.
    b. Click **Add Remote Server**.
    c. Enter the details for the file server on which you have stored the ISO file.
    d. Click **Save**.
    e. Click **Close**.
3. Click **Actions** and select **Transfer ISO**.
4. Click **Transfer from** and select **Remote Location**.
    a. Click **Select Remote Server** and select the previously configured remote file server connection from the list.
    b. In **File path**, enter the name of the ISO file.
    c. Click **OK**.
5. The menu displays the progress of the file transfer.

Result

When the transfer has completed, the **Solution** menu displays **Upgrade Available**. You can now upgrade the servers, see Upgrading using a transferred ISO file on page 142.

Related links

Transferring the ISO File on page 139

Transferring an ISO file using a browser

You can transfer an ISO file through a web browser connection to the server. However, whilst this works for a sever on the same network as the browser, in other scenarios it is slow. In addition, the transfer is cancelled if the browser window is closed during the transfer.

Before you begin

- Download the ISO file for the release from the Avaya support site (https://support.avaya.com).
- Also download any related documentation from the same page as the ISO file.

Procedure

1. Login to web manager on the server.
2. Click **Actions** and select **Transfer ISO**.
3. Click **Transfer from** and select **Client Machine**.
    a. From the **Select ISO** field, click **Browse**.
    b. Locate the ISO file and click **Open**.
    c. Click **OK**.
4. The menu displays the progress of the file transfer.

Result

When the transfer has completed, the **Solution** menu displays **Upgrade Available**. You can now upgrade the servers, see Upgrading using a transferred ISO file on page 142.

Related links

Transferring the ISO File on page 139

Transferring an ISO file via SSH

You can use SFTP/SSH to upload an ISO file directly to a folder on the server. This upload process is typically slow, taking several hours, but reliable.

Before you begin

- Download the ISO file for the release from the Avaya support site (https://support.avaya.com).
- Also download any related documentation from the same page as the ISO file.

Procedure

1. Using an SSH file transfer application, connect to the server. The exact method depends on the application that you are using:
   a. For the host name, use the IP address or FQDN of the server.
   b. For the user name and password details use the Administrator account.
   c. The protocol is SFTP or SSH.
   d. The port is 22.
   e. If this is the first time the application has connected to the server, accept the trusted key.
   f. The default folder displayed after logging in is /home/Administrator. Upload the ISO file to that folder.
2. Login to web manager on the server.
3. Click **Actions** and select **Transfer ISO**.
4. Click **Transfer** from and select **Server Path**.
5. In the **File path**, enter the path to the uploaded ISO file. For example `/home/Administrator/abe-11.1.0.227_el6.iso`.
6. The menu displays the progress of the file transfer.

Result

When the transfer has completed, the **Solution** menu displays **Upgrade Available**. You can now upgrade the servers, see Upgrading using a transferred ISO file on page 142.

Related links

Transferring the ISO File on page 139

Transferring an ISO file from a USB Key

You can copy an ISO file from a USB memory key inserted into one of the server's USB ports.

Before you begin

- Download the ISO file for the release from the Avaya support site (https://support.avaya.com).
- Also download any related documentation from the same page as the ISO file.
- Copy the ISO file onto the USB memory key. Do not use any software to unpack the ISO file onto the USB.

Procedure

1. Login to web manager on the server.
2. Click **Actions** and select **Transfer ISO**.
3. Click **Transfer from** and select **USB Primary Server**.
4. From the **Select ISO** field, click **Browse**. Locate the ISO file and click **Open**.
5. The menu displays the progress of the file transfer.

Result

When the transfer has completed, the **Solution** menu displays **Upgrade Available**. You can now upgrade the servers, see Upgrading using a transferred ISO file on page 142.

Related links

Transferring the ISO File on page 139

Upgrading using a transferred ISO file

After you transfer an ISO file to the primary server, the Solution menu displays **Update Available** next to each server in the solution.

Before you begin

- You must obtain and check all relevant release notes and documentation prior to any upgrade.
- Ensure that you have backed up the server before performing the upgrade. See Backup and Restore on page 123.
- Some upgrades require a new set of licenses, typically when upgrading to another major release rather than to a service pack or feature pack within the current release. Obtain and install the new license file before upgrading. A license file for a higher release will still allow the existing release to continue operating.
- If the server is part of a network of IP Office servers:
  - The primary server must be upgraded first.

  - Once the primary server has been upgraded, any other servers can be upgraded individually or simultaneously.
- Upgrading will cause service disruption and end calls in progress. If possible it should be performed outside normal business hours. Using ISO transfer and upgrade through web manager is recommended as that method allows for scheduled upgrading if required.
- Transfer the ISO file to the server. See Transferring the ISO File on page 139.

About this task

- If this is a network of servers:
  1. Upgrade the primary server on its own first.
  2. Once the primary server has been upgraded, the remaining servers in the network can be upgraded simultaneously if required.
- You can select to schedule the upgrades if required.

Procedure

1. Login to web manager on the server.
2. Log in to Web Manager.
3. In the server list on the Solution page, select the server.
   - If this is a multi-server network. Select the primary server on its own.
4. Click **Actions** and then select **Upgrade**.
5. If required, select **Use Schedule** and defining a scheduled time.
6. Select the **Restart IP Phones** check box if you want all the connected IP Phones to restart after the upgrade is complete.
7. You receive a prompt regarding upgrade licenses. Click **Yes**.
8. You receive a prompt for the License Agreement. Click **Accept** and then **Next**.
9. Click **Close** to close the Upgrade window.
10. You receive a prompt to confirm the upgrade. Click **OK**.
11. The upgrade process begins and progress is shown. However during the process you may be logged off and need to log in again. Allow approximately 30 minutes before logging in again.
12. Once the upgrade has completed, check the operation of the service provided by that server.
13. If this is a multi-server network, you can now upgrade the other servers in the network.

Related links

Upgrading systems using an ISO file transfer on page 139

Chapter 20: Upgrading using a USB key

You can upgrade a server using a bootable USB key. This can be an automatic upgrade.

Before you begin

- You must obtain and check all relevant release notes and documentation prior to any upgrade.
- Ensure that you have backed up the server before performing the upgrade. See Backup and Restore on page 123.
- Some upgrades require a new set of licenses, typically when upgrading to another major release rather than to a service pack or feature pack within the current release. Obtain and install the new license file before upgrading. A license file for a higher release will still allow the existing release to continue operating.
- If the server is part of a network of IP Office servers:
  - The primary server must be upgraded first.
  - Once the primary server has been upgraded, any other servers can be upgraded individually or simultaneously.
- Upgrading will cause service disruption and end calls in progress. If possible it should be performed outside normal business hours. Using ISO transfer and upgrade through web manager is recommended as that method allows for scheduled upgrading if required.
- Download the ISO file for the release from the Avaya support site (https://support.avaya.com).
- Also download any related documentation from the same page as the ISO file.
- Create a bootable USB key with the mode set to **auto-upgrade**. See Creating a USB Drive using Rufus on page 29.

Procedure

1. Insert the installation USB drive in the USB port of the server.
2. Start the server.
3. On a Dell R260 or R660 based server, access the **One Time Boot Menu** by pressing **F12** when you see the Dell logo. In the menu:
   a. Use the cursor keys to select the USB memory key.
   b. Press **Enter** to start a boot from the USB memory key.
4. The upgrade proceeds automatically. When completed, remove the USB key and allow the server to restart again.

Part 10: Server Maintenance

Chapter 21: Configuration

This sections covers some general configuration processes.

Related links

Administration tools on page 146
Starting Web Manager on page 146
Accessing the Server's Web Control Menus on page 147
Starting IP Office Manager on page 147
Setting a login warning banner on page 148

Administration tools

After you have provisioned all the required components in an IP Office Server Edition Solution, use IP Office Manager and IP Office Web Manager to configure additional settings. Refer to

- Administering Avaya IP Office™ Platform with Manager
- Administering Avaya IP Office™ Platform with Web Manager

Warning:

Only use CLI commands only if you are Avaya support personnel. You must not install any third party applications on IP Office Server Edition components.

Related links

Configuration on page 146

Starting Web Manager

IP Office Web Manager is a set of menus that are installed as part of the server software. They can be used to configure and manager most aspects of the server’s operation..

Before you begin

You must have the IP address of IP Office Server Edition server.

Procedure

1. On a PC on the same network as the server, start a web browser. Either:
   - Enter `https://<Server Address>`. From the menu that appears, select **IP Office Web Manager**.
   - Alternatively, enter `https://<Server Address>:7070`.
2. In the login form, enter the name and password for a service user account that has been configured in the system's security settings.

Related links

Configuration on page 146

Accessing the Server's Web Control Menus

The web control menus are a set of menus supported on all Linux-based IP Office servers. They provide access to a number of underlying server settings separate from the services being provided by the server. For example, the server's date and time settings.

The process below can be used to directly access the server's web control menus. The menus can also be accessed via Web Manager by selecting the ☰ > **Platform View** option next to the server.

Before you begin

- You must have the IP address of the server.

Procedure

1. On a PC on the same network as the server, start a web browser.
2. Enter `https://<Server Address>:7071`.
3. In the login form, enter the name and password for a service user account that has been configured in the system's security settings.

Related links

Configuration on page 146

Starting IP Office Manager

You can start IP Office Manager using Web Manager. When a Server Edition Secondary server is present, you cannot launch Manager using Web Manager from the Server Edition Secondary server, unless the Server Edition Primary server is down.

You can start Manager without using Web Manager if you installed Manager on your computer. To install Manager, use the IP Office Admin DVD or **AppCenter** page of the Server Edition Primary server. For more information, see Administering Avaya IP Office™ Platform with Manager.

Note:

When you start Manager using Web Manager for the Server Edition Secondary server, you can manage only the systems that are online. After the Server Edition Primary server is up, you must synchronize the offline and online configurations.

Before you begin

- Start Web Manager.
- Log in as *Administrator*.
- To start Manager using Web Manager, install the latest Java Runtime Environment (JRE) Oracle version.

Procedure

In the Web Manager menu bar, click **Applications** and then **IP Office Manager**.

The system automatically loads the IP Office configuration file from the primary server. To load an alternate IP Office configuration file, select the appropriate server.

Result

The system checks if Manager is installed. The system also checks for the version of Manager that is installed.

The system prompts you to download and install the latest version of Manager in the following situations:

- If the version of Manager is not the latest.
- If Manager is not installed.

Next steps

Do one of the following:

- Click **OK**, to open the current version of Manager that the system has detected.
- Download and install the latest version of Manager. Then restart your browser.
- Select **Start** > **Programs** > **IP Office** > **Manager** to open Manager directly from the computer.

Related links

Configuration on page 146

Setting a login warning banner

When a user logs in to IP Office Server Edition you can set a warning banner. A warning banner displays the terms and conditions to use IP Office Server Edition.

Procedure

1. Log in to Web Manager.
2. On the Solution page, for the system where you want to set a login banner, select **Server Menu** > **Platform View**.
3. Select **Settings** > **General**.
4. In the **Set Login Banner** section, type the warning message in the text area.
5. Click **Save**.

Result

The system displays the warning banner in the login page when you log in to IP Office Server Edition next time.

Related links

Configuration on page 146

Chapter 22: General Maintenance

This section covers general server maintenance and configuration actions.

Related links

[Changing the Server Date and Time Settings](#) on page 150
[Checking the Services](#) on page 151
[Rerunning the Initial Configuration Menu](#) on page 153

Changing the Server Date and Time Settings

You can change the date and time settings used by the server through the server's web configuration pages. The System menu shows the server's current date and time.

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.
2. Select **Settings**.
3. Select **System**.
4. Select the **Date and Time** section.

Setting	Description
Date	For a server not using NTP, this field shows the server's current date and allows that to be changed. If using NTP this field is greyed out. For virtual servers this field is not used. If not using NTP, the virtual server takes its time from the virtual server host platform.
Time	For a server not using NTP, this field shows the server's current UTC time and allows that to be changed. If using NTP this field is greyed out. For virtual servers this field is not used. If not using NTP, the virtual server takes its time from the virtual server host platform.

Table continues…

Setting	Description
Timezone	In some instances the time displayed or used by a function needs to be the local time rather than UTC time. The Timezone field determines the appropriate offset applied to the UTC time above. Note that changing the timezone can cause a "Session expired" message to appear in the browser in which case you need to login again.
Enable Network Time Protocol Client When selected, the server obtains the current date and time from the NTP servers using the settings below.	
NTP Servers	Use this field to enter the IP address of an NTP server or servers to use. Enter each address as a separate line. The network administrator or ISP may have an NTP server for this purpose. A list of publicly accessible NTP servers is available athttp://support.ntp.org/bin/view/Servers/WebHome. However, it is your responsibility to comply with the usage policy of the chosen server. Choose several unrelated NTP servers in case one of the servers becomes unreachable or its clock unreliable. The server uses the responses it receives from each NTP server to determine reliability.
Synchronize system clock before starting service	Use this option to synchronize the system clock to an NTP time server before starting other services. Do not use this option if the time server cannot be reliably reached. Waiting for synchronization to occur may block use of the system until a timeout has passed.
Use local time source	When not selected, external NTP takes priority over the internal system clock. If selected, the local system clock is used as the time source. Only use this option if system clock is synchronized with another reliable source, for example a radio controlled clock device.

5. Click **Save**.

Related links

General Maintenance on page 150

Checking the Services

Through a server's web control menus, you can view the services that the server has been configured to run.

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.
2. Check that the expected services have been started. If not, start the required services using the **Start** buttons on the right. Select **Show optional services** to show all services.

Service	Description
IP Office	This is the telephony service. It supports the configuration of features such as users, groups, lines, system security, and IP routing. • On IP Office Application servers and UCM, this is replaced by the **Management Service** below.
Management Service	This is a shell version of the **IP Office** service that only allows basic configuration of services such as remote SSL VPN connections for server support. It does not support telephony features such as users, extensions or trunks.
one-X Portal	This is a web browser based application that users can use to control making and answering calls on their phone. It also provides a range of gadgets for the user to access features such as their directory, call log and voicemail messages. The one-X Portal for IP Office application is configured and managed remotely via web browser.
Collaboration Services	This service is used to support connection between the **IP Office** service and external services such as LDAP integration.
Voicemail	This is a voicemail server. It provides mailbox services to all users and hunt groups on the IP Office system.
Web License Manager	This service allows the server to act as a WebLM server. IP Office systems using PLDS licenses can then use the address of the server for license validation.
Web Manager	You can configure and manage the server via browser access to the Web Manager menus. The menus also allow the launching of other clients used to configure and monitor the services run by the server.
Optional Services The server can include a number of additional services. Click **Show optional services** to display those services.	
Media Manager	This application can be used for the long term storage and retrieval of call recordings. The recordings are made by voicemail service. Those recordings are then collected by Media Manager and stored by it. This service is used to provide local Media Manager support. It is not required for system's using centralized Media Manager.

- The one-X Portal for IP Office service remains yellow until its configuration is completed.
- Note that The Voicemail service shows green even if it is not connected to the IP Office due to a password mismatch.

Related links

General Maintenance on page 150

Rerunning the Initial Configuration Menu

If necessary, the initial configuration menu for a server can be rerun. Note however that there are differences from running the initial configuration on a newly installed server:

- The operating mode of the server cannot be changed. For example a subscription mode system cannot be changed to a non-subscription mode system.
- If the server is running the IP Office server, the **Retain Configuration** option should be used to retain that service's existing configuration.

Procedure

1. Connect to the IP Office system using IP Office Web Manager. See Starting Web Manager on page 146.
2. Click on the ☰ icon adjacent to the server details and select **Initial Configuration**.
3. The initial configuration menu for the server is displayed with the server's existing settings.
4. Change the settings as required.
5. Click **Apply**.

Related links

General Maintenance on page 150

Chapter 23: Changing Server Password

The following processes can be used to manage and change administrator passwords.

- These processes require knowledge of the existing administration passwords. If no passwords are known, see Resetting a server's security settings on page 172.

Related links

Synchronizing the system service users and passwords on page 154
Changing the Administrator password using Web Manager on page 155
Changing the root user password on page 155
Changing the common Administrator passwords using IP Office Manager on page 156

Synchronizing the system service users and passwords

When managing a network of servers, it is possible to synchronize the service user accounts and their passwords on all the servers with those of the primary server.

Before you begin

- To use this process, the administrator account password for each system should already match.

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Select **Solution**.
3. Select the checkbox next to each server to which the synchronization action should be applied.
4. Select **Actions** > **Synchronize Server User and System Password**.
5. The system will confirm when the action has been completed.

Related links

Changing Server Password on page 154

Changing the Administrator password using Web Manager

About this task

You can administer all the systems configured in IP Office Server Edition Solution using Web Manager . The components that you can administer are the Server Edition Primary, Server Edition Secondary, and Server Edition Expansion System (L).

Procedure

1. Connect to the primary IP Office server using IP Office Web Manager. See Starting Web Manager on page 146.
2. Click **Tools**. The system displays the Services window.
3. Click **Preferences** .
4. Type the new password in the **Password** field.
5. Retype the new password in the **Confirm Password** field.
6. Click **Save**.

Result

The system changes the password and displays the status of the password change.

Related links

Changing Server Password on page 154

Changing the root user password

You can change the Linux *root user* password through the server's web control menus.

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.
2. Select > **Settings** > **SystemSettings** >**System**.
3. Type the new password in the **New Password** field of the **Change Root Password** section.
4. Retype the password in the **Confirm New Password** field.
5. Click **Save**.

Related links

Changing Server Password on page 154

Changing the common Administrator passwords using IP Office Manager

In a network of IP Office servers, you can create and maintain a common administrator user name and password for all the systems. This then allows a range of centralized actions, such as synchronizing all security settings.

This process can also be done using Web Manager (see Synchronizing the system service users and passwords on page 154). Use this procedure only if you are not able to access Web Manager.

Before you begin

- You must have an existing user name and password for each of the systems in IP Office Server Edition Solution to access the security configuration.

Procedure

1. Connect to the server using IP Office Manager. See Starting IP Office Manager on page 147.
2. Select **Tools** > **Server Edition Service User Management**.
3. In the **Select IP Office** window, select the systems for which you want to create a common configuration account.
4. Click **OK**.
5. Type the user name and password to access the security configuration of each of the system that you have selected.
6. To use the same user name and password for the selected systems, select **Use above credentials for all remaining, selected IPOs**.
7. The system displays the list of all the systems in the network and whether they already a common service user account.
8. To change the password, click **Change Password**.
9. Click **Update Password**.
10. Enter and confirm the new password.
11. Click **OK**.
12. Click **Close**.

Related links

Changing Server Password on page 154

Chapter 24: Log Files

By default, each IP Office server (other than IP500 V2 systems) stores up to 4GB of logs files per day. It stores those logs for up to 3 days.

When required, the oldest logs are automatically deleted in order to provide space for new logs.

Whilst you may not be able to interpret the logs, you should know how to obtain logs from a system in order to provide them when raising an issue for support.

Related links

Viewing the Debug log files on page 157
Configuring syslog files on page 157
Viewing the syslog records on page 158
Configuring the age of the log files on page 159
Downloading the log files on page 159

Viewing the Debug log files

About this task

You can view the log files of the various applications that the server supports.

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.
2. Select **Logs** > **Debug Logs** .
3. To view the logs for a specific application, select the application from the **Application** list .

Related links

Log Files on page 157

Configuring syslog files

You can configure the server to receive and the forward the syslog records.

Note:

You cannot configure Server Edition Expansion System(L) or the Application Sever to receive and forward the syslog records.

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.
2. Select **Settings** > **General**.
3. In the **Syslog** section do the following:
   a. In **Log files age (days)**, set the number of the days that the server has to retain the log files.

      You can set the age of the different types of log files. If you select **Apply general settings to all file types**, the same age is used for all types.

   b. In **Max log size (MB)**, set the maximum size for each type of log files.

      You can set the maximum size for the different types of log files. If you select **Apply general settings to all file types**, the same size is used for all types.

   c. In **Receiver Settings**, select **Enable**.
   d. Set the protocol and the port number that the system should use to receive the syslog records.
   e. Select **Forward Destination 1**.
   f. Set the protocol that the system should use to send the syslog records. Type the address of the server and the port number in **IP Address: Port** field.

      To send the syslog records to a second server, select **Forward Destination 2**.

   g. In **Select Log Sources**, select the type of server reporting that the system should include in the syslog records.
4. Click **Save**.

Related links

Log Files on page 157

Viewing the syslog records

The system displays the syslog files or records that are received by the server.

Before you begin

Configure the syslog events that the server should receive by performing the procedure Configuring syslog files on page 157.

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.
2. Select **Logs** > **Syslog Event Viewer** .
3. Use the **Host**, **Event Type**, **View** and **Tag** options to select the log records shown.

Related links

Log Files on page 157

Configuring the age of the log files

About this task

The system notifies you regarding the status of the application service or the server in the event of any failure or outage. The system displays the notifications along with time stamps and records them in a log file. You can configure the number of days that these log files need to be retained in the system.

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.
2. Select **Settings** > **General**.
3. In the **Watchdog** section, type the number of days in the **Log files age (days)** field.

Note:

- The system does not apply the number of days that you set to the log files that have already been archived.

Related links

Log Files on page 157

Downloading the log files

The system archives the log files of the applications in *.tar.gz* format.

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.

2. Select **Logs** > **Download** .
   - The system displays the files that you need for debugging in the **Debug Files** section and log files in the **Logs** section.
3. Any existing zipped log files are shown. Click **Create Archive** to also create zipped files from any current logs that have not already been zipped.
4. Click the files that you want to download.
   - The process for the download and the location to which the system downloads the files depends on the browser that you use to access Linux Platform settings.

Related links

Log Files on page 157

Chapter 25: Shutting Down/Restarting Servers

The following processes can be used to shut-down and restart servers.

Related links

Shutting down an IP500 V2 Expansion on page 161
Shutting Down a Linux Server Using Web Manager on page 162
Shutting down a server using Web Control on page 162
Removing a Secondary server on page 163
Removing an expansion system on page 163

Shutting down an IP500 V2 Expansion

You can shut down a Server Edition Expansion System (V2) using the IP Office Server Edition Manager.

About this task

Warning:

- Do not remove the power cords or turn off the power input to the system to shut down the system.
- All user calls and services that are in progress stop. After you shut down, you cannot use the system to make or receive any calls until you restart the system.
- To restart a system after you shut down indefinitely, or to restart a system before the timed restart, turn on the power supply to the system again.

Procedure

1. Select **File** > **Advanced** > **System Shutdown**.
2. In the **Select IP Office** window, select the system that you want to shutdown.
3. In the **System Shutdown Mode** dialog box:
   - Select **Indefinite**, to shut down the system for an indefinite time. If you shut down the system for an indefinite time, you must turn off the power to the system and then turn on the power supply gain to restart the system

- Select **Timed** and set the time to restart after the system is shut down.

.

4. Click **OK**.

Related links

Shutting Down/Restarting Servers on page 161

Shutting Down a Linux Server Using Web Manager

To ensure that the system saves the configuration file always shut down the system using Web Manager.

Procedure

1. Log in to Web Manager
2. On the Solution page, click the Server Menu icon to the right of the server you want to shut down.
3. Select **Platform View** and then **System**.
4. Under **System**, click **Shutdown**.

Related links

Shutting Down/Restarting Servers on page 161

Shutting down a server using Web Control

About this task

To shut down a server using the server's web control (platform view) menus:

Procedure

1. Access the server web control menus. See Accessing the Server's Web Control Menus on page 147.
2. On the **Home** tab, in the **System** section, click **Shutdown**.
3. In the warning dialog that appears, click **Yes** to confirm that you want to shut down the system.
4. The system displays the login page. Do not log in again because the system is in the process of stopping the services.
5. After the server is shut down, turn off the power to the server.

Related links

Shutting Down/Restarting Servers on page 161

Removing a Secondary server

Before you begin

- Ensure that there are no active calls.
- Ensure that phones and users are not active on Server Edition Secondary server.

Procedure

1. Login using IP Office Manager. See Starting IP Office Manager on page 147.
2. In the **Solution** view, at the bottom, right-click on the server.
3. Select **Remove**.
4. Click **Yes** to confirm.
5. Save the changes.

Related links

Shutting Down/Restarting Servers on page 161

Removing an expansion system

Before you begin

Ensure that there are no active calls in the expansion system.

Procedure

1. Login using IP Office Manager. See Starting IP Office Manager on page 147.
2. In the **Solution** view, at the bottom, right-click on the server.
3. Select **Remove**.
4. Click **Yes** to confirm.
5. Save the changes.

Related links

Shutting Down/Restarting Servers on page 161

Chapter 26: Changing Server Addresses

Use these procedures to change the major IP address of a Server Edition Server. The major IP address is the address used to manage the Server Edition Primary server, typically LAN1.

⚠ Warning:

- For virtualized servers, the server's **Host Name**, **IP Address** and **Use DHCP** settings are used to generate the server's unique **Host PLDS ID** used for licensing. Changing any of those values will change the ID. If that ID has been used to generate local (nodal) PLDS licenses, those licenses become invalid. This does not affect WebLM (centralized) PLDS licenses.

Related links

Changing the IP Address of the Primary Server on page 164
Changing the IP Address of a Secondary or Expansion Server on page 165

Changing the IP Address of the Primary Server

About this task

⚠ Warning:

- For virtualized servers, the server's **Host Name**, **IP Address** and **Use DHCP** settings are used to generate the server's unique **Host PLDS ID** used for licensing. Changing any of those values will change the ID. If that ID has been used to generate local (nodal) PLDS licenses, those licenses become invalid. This does not affect WebLM (centralized) PLDS licenses.

Procedure

1. Use IP Office Manager to run the Initial Configuration Utility (ICU) on each Server Edition Secondary and Server Edition Expansion System.

   When running the ICU, ensure the **Retain Existing Configuration** setting is checked.

   a. Enter the new Server Edition Primary server IP address/Netmask. This may require a different Gateway IP Route.

   b. Save the configuration to the system. This results in the system going offline from the Server Edition Primary server and Manager.

   c. Once the ICU has been run on each system, close Manager.

2. Use IP Office Web Managerto log in to the Server Edition Primary server and change the IP address.
    a. Select **System Settings** > **System**
    b. On the System screen, click **View AutoPrimary** located at the right.
    c. Change the IP address as required and click **Update**.
3. Restart the Server Edition Primary server.
4. Use Manager to log in to the Server Edition Primary server and check that all the IP Office systems are online.
5. Review and test the configuration.
6. Perform a backup.

Related links

Changing Server Addresses on page 164

Changing the IP Address of a Secondary or Expansion Server

About this task

Warning:

- For virtualized servers, the server's **Host Name**, **IP Address** and **Use DHCP** settings are used to generate the server's unique **Host PLDS ID** used for licensing. Changing any of those values will change the ID. If that ID has been used to generate local (nodal) PLDS licenses, those licenses become invalid. This does not affect WebLM (centralized) PLDS licenses.

Procedure

1. Use IP Office Manager to run the Initial Configuration Utility (ICU) on the Server Edition Secondary or Server Edition Expansion System.

    When running the ICU, ensure the **Retain Existing Configuration** setting is checked.
2. Change the IP address.
3. Save the configuration to the system. This results in the system going offline from the Server Edition Primary server and Manager.
4. Log in to the Server Edition Primary server and remove the Server Edition Secondary or Server Edition Expansion System from the solution.
5. Run the ICU and add the Server Edition Secondary or Server Edition Expansion System to the solution.

    If requested, use the consolidate from Primary (Replace option).

6. Launch one-X Portal administration and configure the DSML and CSTA providers with the new IP address. The one-X Portal service may require a restart.
7. Review and test the configuration.
8. Perform a backup.

Related links

Changing Server Addresses on page 164

Chapter 27: Hardware Replacement

This section covers general details for replacing hardware involved in a server configuration.

Related links

Replacing IP500 V2 system on page 167
Replacing System SD Card on page 168
Replacing an IP 500 V2 Field Replacable Unit on page 168
Replacing a Linux server on page 169

Replacing IP500 V2 system

At all times follow the relevant safety and static handling procedures. For further information see, *Warnings* section of Deploying an IP500 V2 IP Office Essential Edition System.

Before you begin

Take an SD card backup using either Manager, SSA or system phone. Do not take a backup of the current configuration or the SD card if it is suspicious.

Procedure

1. Shutdown system using Manager, SSA or system phone.
2. Remove the SD card.
3. Replace system hardware and swap all expansion modules, units and cables with similar kind.
4. Insert SD card.
5. Power on of the system with local connectivity only.
6. Check status using the locally attached IP Office Manager and SSA.
7. Reconnect to the network.
8. Check the configuration using IP Office Manager and Web Manager.

   A restore is not required since all necessary data is on the SD card. Licenses remain valid.

Related links

Hardware Replacement on page 167

Replacing System SD Card

At all times follow the relevant safety and static handling procedures. For further information see, *Warnings* section of Deploying an IP500 V2 IP Office Essential Edition System.

Before you begin

The replacement SD card should be of same type for example, A-Law, U-Law and firmware version with no configuration data. Use the *Recreate IP Office SD Card* feature to load the correct firmware.

Procedure

1. Shutdown the SD card using IP Office Manager, SSA or system phone.

   You do not need to shutdown the system.
2. Remove SD card.
3. Insert replacement SD card in System SD slot and wait for System SD LED to be constant green.

   The systems save internal flash copy of configuration, security settings, DHCP and call log to the SD card.

   Note:

   Any local licenses will fail in 2-4 hours if not failed already. All Server Edition central licenses remain valid.
4. Using IP Office Manager, administer new local licenses and delete old.
5. Validate status and configuration with IP Office Manager, Web Manager, , and SSA.
6. Take a backup using Web Manager and an SD card backup using IP Office Manager, SSA or system phone.

   The SD card backup provides a local copy, and resilience to a multiple reboot scenario.

Related links

Hardware Replacement on page 167

Replacing an IP 500 V2 Field Replacable Unit

Procedure

When another field replaceable IP500 V2 component has failed or Expansion module, Expansion Unit, or cable, replace the defective component according to section “Replacing Hardware” section of Deploying an IP500 V2 IP Office Essential Edition System.

Related links

Hardware Replacement on page 167

Replacing a Linux server

Always follow the relevant safety and static handling procedures.

Before you begin

- Always follow the relevant safety and static handling procedures.
- The hard drives and power supplies on some particular servers are hot swappable. There is no need for chassis replacement. These items should can be replaced while the system is running. For further information see the Avaya Common Server installation guides.
- If viable and appropriate, take server backup using Web Manager. Take a backup of all components, all data sets, and to a remote server. Note any parameters required for the new server's ignition process
- If not down already, shut down the server using Web Manager, then power off.
- Ensure any resilient switch over of phones, hunt groups, voicemail services has taken place.
- Remove and replace chassis with same capacity.

About this task

Use this procedure to replace all Avaya-supplied Linux servers.

Procedure

1. Power on the system with local connectivity only
2. Upgrade to the latest version of IP Office Server Edition Solution using Web Manager.
3. Configure the server using the ignition process, using the same settings as the original ignition.
4. Configure the server using IP Office Manager Initial Configuration Utility (ICU) to provide management connectivity and valid IP address. Use the same settings as the original ICU.
5. Using Web Manager, on the Server Edition Primary server, run node restore with override for new ID .

   The system restores all configuration and data saved in the original backup except security settings. If this is an Application Server that is not a part of Server Edition, use Web Manager to restore.
6. Reapply the security settings as these will be default.
   - If you are replacing a Server Edition Primary server, set all the non-default security settings using IP Office Manager.
   - If you are replacing a Server Edition Secondary server, a Server Edition Expansion System, or an Application Server, use the **Synchronize Security** feature of Web Manager.
7. Validate status and configuration with Web Manager, Manager, and SSA.
8. Perform a backup using Web Manager.
9. Using IP Office Manager, administer new local licenses and delete old.

   Any local licenses will become invalid after 30 days. An offline license swap-out exists.

Related links

Hardware Replacement on page 167

Chapter 28: Troubleshooting

The following sections cover a number of known issues and their solutions.

Related links

Warning message

When you open a web browser and type `https://<IP address of Server Edition server>:<port number>`, the system displays the following warning message:

`This Connection is Untrusted`

1. Click **I Understand the Risks**.
2. Click **Add Exception**.
3. Click **Confirm Security Exception**.

.

The system displays IP Office Server Edition login page.

Related links

“IP Office is under Server Edition Manager Administration”

When you attempt to configure an IP Office Server Edition system that is managed by an IP Office Server Edition Manager using the IP Office Standard Manager, the system displays an error message:

```
Unable to login. IP Office is under Server Edition Manager
Administration
```

1. Go to **File** >**Advanced** > **Security Settings**.
2. Select the IP Office Server Edition system, in the Select IP Office window.
3. Click **OK**.
4. Type the name of the *Security Administrator* in the **Service User Name** field.
5. Type the name of the *Security Administrator* in the **Service User Password** field.
6. Select **Services** in the navigation pane.
7. In the Service: Configuration section, set the **Service Access Source** field as *Unrestricted*.
8. Click **OK**.
9. Select **File** > **Save Security Settings**.

   The system unlocks the access for the *Administrator*.
10. Open the configuration and log in as *Administrator*.

Related links

Troubleshooting on page 171

Resetting a server's security settings

This process can be used if none of the existing passwords are known. This is a two part process:

1. Reset the Linux root password through the command line.
2. Erase the existing IP Office security settings from the command line.
3. Set new IP Office passwords when prompted at first login.

Procedure

1. Attach a monitor and keyboard to the IP Office system.
2. Reboot the system and at the start of the boot process, press any key to display the grub menu.

3. Select the `CentOS Linux` line and press `e`.

4. Scroll down to the line starting `linux`.
5. Replace the `ro` argument with `rw init=/sysroot/bin/sh`

6. Press `Ctrl-X` to restart the boot process with the new setting.
7. Once the boot up has completed, enter the following commands:
   a. Enter `chroot /sysroot/`.
   b. Enter `passwd`.
   c. Enter and confirm a new password for the Linux root user.
   d. Enter `exit`.
   e. Enter `reboot`.
8. Log in as root using the new password.
9. Reset the security settings by entering `/usr/bin/dbgclient erasesecurity`. This resets the IP Office *security* and *Administrator* passwords to the same defaults as used for a new install.
10. Login to IP Office Manager or IP Office Web Manager using the default *Administrator* password. When prompted, change the IP Office passwords.

Related links

Troubleshooting on page 171

All systems online in Web Manager but unable save configurations from Manager

All systems appear online in the Linux Platform settings of the primary server, but appear offline in theIP Office Server Edition Manager.

Solution**:**

Ensure that there is a bidirectional IP connectivity from IP Office Server EditionManager personal computer to the devices for the TCP ports 50802–50815.

Related links

Troubleshooting on page 171

All systems online in Manager but offline in Web Manager/Web Control

All systems appear online in IP Office Server EditionManager but appear offline on the Linux Platform settings of the primary server.

Solution**:**

- Ensure that the password of the *Administrator* account on each of the Server Edition Expansion Systemis same as the *Administrator* password of Server Edition Primary server in Linux Platform settings.
- Ensure that the *Administrator* account on each of the Server Edition Expansion Systemis the member of Administrator rights group.
- Ensure that there is a bidirectional connectivity from Server Edition Primaryserver to Server Edition Expansion Systemand Server Edition Secondary server for the TCP ports 8443 and 9080.

Related links

Troubleshooting on page 171

Debugging steps

This sections lists the key steps that you need perform to obtain information.

Warning:

You must run the CLI commands only if you are an Avaya support personnel.

About this task

The key steps are:

Procedure

1. Check and report the status of the application.

   The status of the application such as: running, stopped, stuck in starting, and stopping.

2. Check the usage of memory.

   Check for details such as: the memory that is available on the system and the amount of memory that each application uses.

3. Check for the notifications.

   When you restart an application the system displays the notification.

4. View and download the log files.

   For more information about viewing and downloading the log files, see *Chapter 10* of this guide.

Related links

Troubleshooting on page 171
Logging in as a root user on page 175
Checking memory usage on page 176

Logging in as a root user

Occasionally it may be necessary to login as the Linux root user.

Before you begin

Download and install an SSH secure shell application.

About this task

To login as a root user using SSH Secure Shell.

- Only use this process when instructed to do so by Avaya.
- Logging in as the root user is only supported when connected directly to the server (or the console on virtual servers).

Procedure

1. Connect to the IP Office Server Edition using an SSH tool.
   a. Type the IP address of the IP Office Server Edition server in the **Host Name** field.
   b. Type the **User Name** as `Administrator`.
   c. Set the **Protocol** as **SFTP/SSH**.
   d. Set the **Port** as **22**.

      When you connect to the IP Office Server Edition using an SSH File transfer tool for the first time the system prompts you to accept the trusted key. Accept the trusted key.

   e. Type the password for the *Administrator*. The default password for the *Administrator* is `Administrator`.

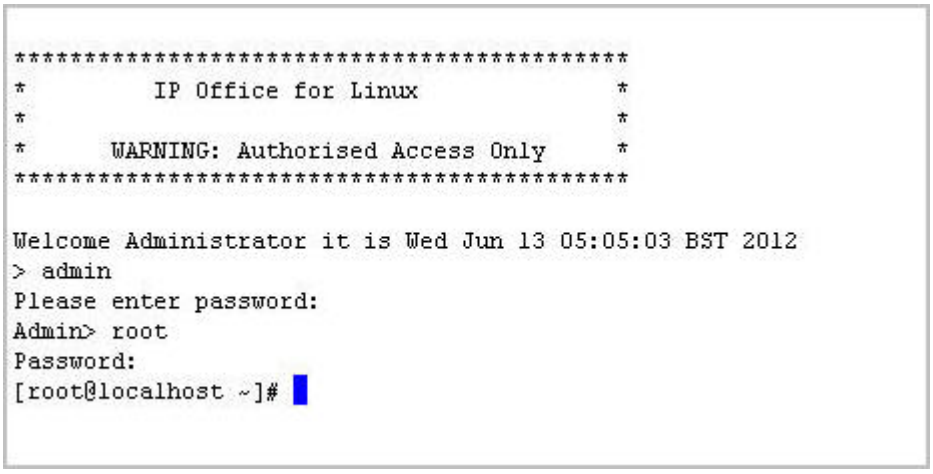
2. In a new terminal window at the command prompt, type `admin`

   The system prompts for a password. The default password is `Administrator`

3. At the `Admin >` prompt, type `root`

4. Type the `root` password. The default password is `Administrator`

   The system displays the root user prompt. For example, `root@<name of the server>`



Related links

Debugging steps on page 174

Checking memory usage

To debug a case you need to check the memory that the system uses.

Note:

You can also check the memory usage in the **Home** page of the Web Control Panel.

Before you begin

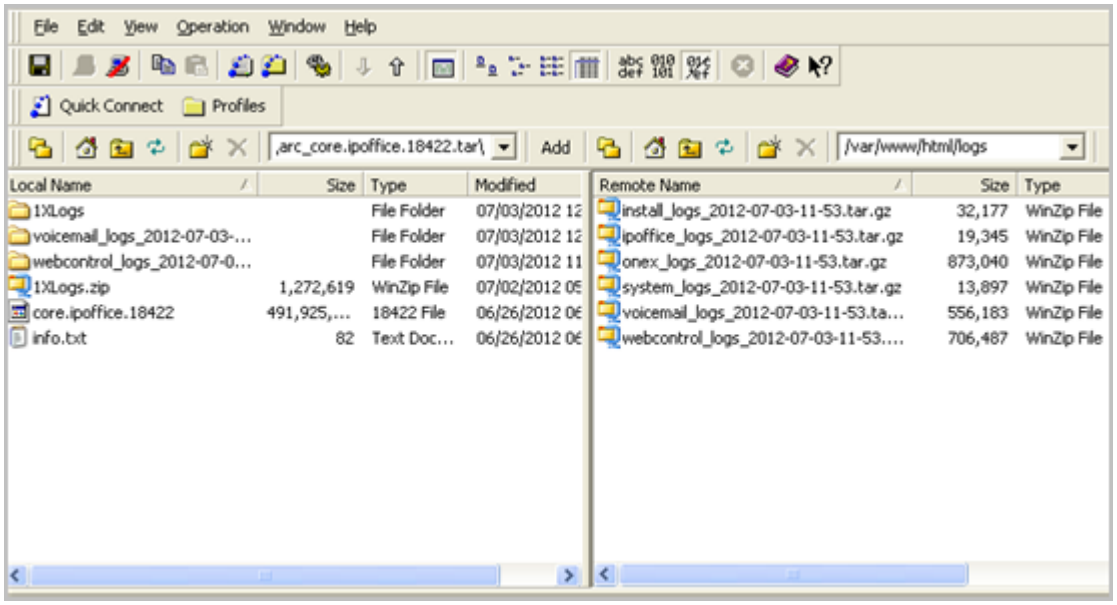
Log in as *Administrator* using SSH Secure File Transfer client

Procedure

1. Type the path of the system logs folder in the Remote View of the File Transfer window.

   The path is `/var/www/html/logs`.

   The system displays the list of all the logs.



2. Move the *system_logs < time and date stamp> tar.gz* file from the Remote View to a location in the Local View of the File Transfer window.
3. In the local computer extract the *system_logs < time and date stamp> tar.gz* file.
4. Go to the `tmp` folder located in the *system_logs < time and date stamp> tar* that you extracted.
5. Open the *avayasyslog.txt* file.

Result

The system displays the details of memory usage in the table that follows the text `+ free`.

```
/dev/sda2:
+ /sbin/hdparm -I '/dev/hd*'
/dev/hd*: No such file or directory
+ df -h
Filesystem            Size  Used Avail Use% Mounted on
/dev/mapper/rootvg-rootvol
                       38G   11G   26G  30% /
tmpfs                1004M     0 1004M   0% /dev/shm
/dev/sda1             512M   38M  449M   8% /boot
+ free
             total       used       free     shared    buffers
cached
Mem:       2055876    1995232      60644          0       6116
128240
-/+ buffers/cache:    1860876     195000
Swap:      1048568     101172     947396
+ ps -eo rss,cmd --sort=rss
  RSS CMD
    0 [kthreadd]
    0 [migration/0]
    0 [ksoftirqd/0]
    0 [migration/0]
```

Related links

Debugging steps on page 174

IP Office Server Edition certificates

IP Office Server Editionserver uses the following X.509 certificates to identify secure web server and administrative interfaces.

Linux Web Control identity certificate

IP Office Server Edition server uses the Linux Web Control identity certificate for:

- Browser access to Web Control.
- Secure Shell access (SSH v2).

IP Office identity certificate

IP Office Server Edition server uses the IP Office identity certificate for:

- Access IP Office Server Edition Manager.
- Browser access to Web Management for on boarding.

Avaya one-X® Portal for IP Office identity certificate

IP Office Server Edition server uses the Avaya one-X® Portal for IP Office identity certificate for:

- Browser access to Avaya one-X® Portal for IP Office when you choose to use HTTPS.

Related links

Troubleshooting on page 171

Identity certificates

Certificates are used to provide assurance of identity in a secure environment. Each IP Office component that supports a web server or TLS interface comes with a default identity certificate and a mechanism to change that certificate. For information on certificates, see Avaya IP Office™ Platform Security Guidelines.

Related links

Troubleshooting on page 171

After failback, the H323 phones do not automatically register back to the original server

IP Office Server Edition Solution provides resilience to some of the functions. When the Primary server is non functional the Secondary server provides resilience and vice versa. The system temporarily logs the users of the H323 phones in to the other server. However, after the original server is functional, the users of the H323 phones remain logged in to the failback server.

Solution

To manually log H323 phone users back into the original server, reset the H323 phones.

If the setting **Phone Failback** is set to **Automatic**, and the phone's primary gatekeeper has been up for more than 10 minutes, the system causes idle phones to perform a failback recovery to the original system. The setting is located at

Manager: System | Telephony | Telephony | Phone Failback

Web Manager: System Settings > **System** > **Telephony** > **Phone Failback**

Related links

Troubleshooting on page 171

Unable to export template

After you change the common configuration Administrator password for the servers using the IP Office Server Edition Manager, when you export a template from Server Edition Primary server, Server Edition Secondary, or Server Edition Expansion System (L). The system displays an error message : `HTTP request failed:401 Unauthorized`

Related links

Troubleshooting on page 171

Solution

About this task

After you change the common configuration Administrator password for the servers using the IP Office Server Edition Manager you must also update the same password for *Administrator* account of the Server Edition Primary and Server Edition Secondary servers using Web Manager.

Procedure

Change the password for *Administrator* account using Web Manager.

Expansion users disconnected from portal when the system registers SIP phones

When the users configured on Server Edition Expansion System log into Avaya one-X® Portal for IP Office of Server Edition Primary and then start registering the SIP phones on Server Edition Expansion System, the users are disconnected from Avaya one-X® Portal for IP Office.

Possible reasons

This issue appears when there are not enough third party IP Endpoint licences when a SIP extension registers on Server Edition Expansion System, the system logs the user off Avaya one-X® Portal for IP Office. The system also sends a request to Server Edition Primary to obtain the necessary licences. If the system obtains the license, then the system logs in the users, else the users remain logged out.

Work around

Enable **Reserve 3rd Party IP Endpoint licence** check box on the SIP extensions that you plan to register. This ensures that the system obtains licences from Server Edition Primary and the licenses are present in the configuration when SIP extensions register. Alternatively, ensure that there are enough third party IP endpoints licenses on Server Edition Expansion System.

Related links

Troubleshooting on page 171

Part 11: Appendix

Chapter 29: IP Office LAN support

You must ensure the IP Office Line network links between servers are either all on **LAN1** or **LAN2**. Failure to adhere to this can reduce efficiency and limit some functionality.

The recommended configuration is to use the Server Edition Linux **LAN1** for all Ethernet traffic with **LAN2** disconnected, and all nodes connected via **LAN1**.

Related links

IP Office LAN differences on page 182
IP Office LAN features on page 182

IP Office LAN differences

There are some differences between the functionality of the LAN interfaces of the Server Edition Expansion System (L) and IP500 V2 based Server Edition Expansion System (V2) platforms. Some of the differences are:

- No IPsec, PPP, NAT or NAPT support on Server Edition Linux.
- No IP routing support on Linux.
- Configuration of a Linux Firewall is limited. No traffic is routed between LAN1 and LAN2, except VoIP media (RTP).

The LAN2 interface of the Server Edition Linux platform has fewer capabilities than LAN1.

- A one-X Portal client cannot listen to voicemail messages.
- You cannot launch the Server Edition Manager and other clients from Web Control.
- External MAPI and SMTP voicemail servers cannot be accessed via LAN2.

Related links

IP Office LAN support on page 182

IP Office LAN features

The following table details the LAN supported features for Server Edition Expansion System (V2) and Server Edition Expansion System (L) platforms.

Feature	IP500 V2 LAN1		Linux LAN1	
	LAN1	LAN2	LAN1	LAN2
Interface Layer1 - Layer4				
Interface Support	✓	✓	✓	✓
Physical<>logical interface mapping	Fixed: 'LAN'	Fixed: 'WAN'	✓	✓
Speed	10/100	10/100	10/100/ 1000	10/100/ 1000
Duplex	Full/half	Full/half	Full/half	Full/half
802.1Q VLAN support Static o/g VLAN assignment via administration. IP500 V2 strips any received VLAN tag, all o/g packets have no VLAN tag	–	–	✓	✓
DSCP/ToS Linux LAN2 uses LAN1 DSCP settings – any LAN2 settings are ignored	✓	✓	✓	✓
Default gateway/route Linux via ignition or Web Control	✓	✓	✓	✓
Proxy ARP IP500 V2 acts as an L3 router	✓	✓	–	–
IP Multicast	✓	✓	–	–
Inter LAN				
Firewall A Linux ingress/egress firewall can be activated, with further controls for specific unsecure ports such as TFTP and HTTP. No differentiation between LAN1 and LAN2.	✓	✓	✓	✓
IP Routes No configurable IP routing between Linux LAN interfaces. All received Linux LAN traffic that is not destined for the node is discarded except VoIP media which is allowed to traverse with NAT.	✓	✓	–	–
NAT/NAPT	✓	✓	–	–
PPP	✓	✓	✓	–
Clients				
one-X Portal client – basic	–	–	✓	✓
one-X Portal client – VM listen	–	–	✓	-
one-X Plugins	–	–	✓	✓
SoftConsole	✓	✓	✓	✓

Table continues…

Feature	IP500 V2 LAN1		Linux LAN1	
	LAN1	LAN2	LAN1	LAN2
Voicemail Pro – MAPI Link Two way MS Exchange VM Integration via MAPI or EWS.	–	–	✓	✓
Voicemail Pro – SMTP One way IMAP/Exchange VM integration.	–	–	✓	–
Administration				
IP Office Manager Also accessible via IPOSS remote tunnel (SSLVPN).	✓	✓	✓	✓
Server Edition Manager Access should be the same LAN1/2 interface as the inter-node connections.	✓	✓	✓	✓
SSA	✓	✓	✓	✓
SysMon	✓	✓	✓	✓
Web Manager Cannot launch other clients (including Manager and Linux Platform Management) when not accessed via LAN1.	✓	✓	✓	✓
Voicemail Pro Client	n/a	n/a	✓	✓
Linux Platform Management	n/a	n/a	✓	✓
Protocols				
DHCP Client and server	✓	✓	✓	✓
BOOTP	✓	✓	✓	–
TFTP	✓	✓	✓	✓
HTTP/S	✓	✓	✓	✓
SCP	–	–	✓	✓
FTP	–	–	✓	✓
SFTP	–	–	✓	✓
PPP	✓	✓	–	–
IPsec	✓	✓	–	–
VPN (L2TP/PPTP)	✓	✓	–	–
RIPv2	✓	✓	–	–
SSLVPN	✓	✓	✓	✓

Table continues…

Feature	IP500 V2 LAN1		Linux LAN1	
	LAN1	LAN2	LAN1	LAN2
NTP Client and server SNTP operation	✓	✓	✓	✓
TIME RFC 868	✓	✓	–	–
TSPI CTI interface for TAPI and one-X Portal	✓	✓	✓	✓
SNMP Traps and MIBs, v1 only	✓	✓	✓	✓
SMDR	✓	✓	✓	✓
DNS	✓	✓	✓	–
Syslog (UDP+TCP+TLS)	✓	✓	✓	✓
Telephony				
H.323 trunks (including SCN) LAN1 and LAN2 should not be mixed for SCN. Should be all LAN1 or all LAN2. This also includes SE Manager access.	✓	✓	✓	✓
H.323 phones Phones must be configured with 'local' registrar IP address – e.g. not possible to access LAN2 registrar via LAN1.	✓	✓	✓	✓
H.323 Remote worker phone	✓	✓	✓	✓
IP DECT	✓	✓	✓	✓
SIP trunks	✓	✓	✓	✓
SIP phones	✓	✓	✓	✓
STUN	✓	✓	✓	✓
IP Office Softphone	✓	✓	✓	✓

Related links

IP Office LAN support on page 182

Part 12: Further Help

Chapter 30: Additional Help and Documentation

The following pages provide sources for additional help.

Related links

Additional Manuals and User Guides on page 187
Getting Help on page 187
Finding an Avaya Business Partner on page 188
Additional IP Office resources on page 188
Training on page 189

Additional Manuals and User Guides

The Avaya Documentation Center website contains user guides and manuals for Avaya products including IP Office.

- For a listing of the current IP Office manuals and user guides, look at the Avaya IP Office™ Platform Manuals and User Guides document.
- Avaya Support website provides access to the IP Office technical manuals and users guides.
  - Note that where possible this site redirects users to the version of the document hosted by the Avaya Documentation Center.

For other types of documents and other resources, visit the various Avaya websites (see Additional IP Office resources on page 188).

Related links

Additional Help and Documentation on page 187

Getting Help

Avaya sells IP Office through accredited business partners. Those business partners provide direct support to their customers and can escalate issues to Avaya when necessary.

If your IP Office system currently does not have an Avaya business partner providing support and maintenance for it, you can use the Avaya Partner Locator tool to find a business partner. See Finding an Avaya Business Partner on page 188.

Related links

Additional Help and Documentation on page 187

Finding an Avaya Business Partner

If your IP Office system currently does not have an Avaya business partner providing support and maintenance for it, you can use the Avaya Partner Locator tool to find a business partner.

Procedure

1. Using a browser, go to the Avaya Website at https://www.avaya.com
2. Select **Partners** and then **Find a Partner**.
3. Enter your location information.
4. For IP Office business partners, using the **Filter**, select **Small/Medium Business**.

Related links

Additional Help and Documentation on page 187

Additional IP Office resources

In addition to the documentation website (see Additional Manuals and User Guides on page 187), there are a range of website that provide information about Avaya products and services including IP Office.

- Avaya Website (https://www.avaya.com)

  This is the official Avaya website. The front page also provides access to individual Avaya websites for different regions and countries.
- **Avaya Sales & Partner Portal** *(*https://sales.avaya.com*)*

  This is the official website for all Avaya business partners. The site requires registration for a username and password. Once accessed, you can customize the portal to show specific products and information type that you want to see.
- **Avaya Support** *(*https://support.avaya.com*)*

  This site provide access to Avaya product software, documentation and other services for Avaya product installers and maintainers.

  - **Avaya Support Forums** *(*https://support.avaya.com/forums/index.php*)*

    This site provides forums for discussing product issues.

- **International Avaya User Group** *(https://www.iuag.org)*

  This is the organization for Avaya customers. It provides discussion groups and forums.

- **Avaya Learning** *(https://www.avaya-learning.com/)*

  This site provides access to training courses and accreditation programs for Avaya products.

Related links

Additional Help and Documentation on page 187

Training

Avaya training and credentials ensure our Business Partners have the capabilities and skills to successfully sell, implement, and support Avaya solutions and exceed customer expectations. The following credentials are available:

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

Credential maps are available on the Avaya Learning website.

Related links

Additional Help and Documentation on page 187

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