IP Office 8.1

Implementing Voicemail Pro

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Chapter 1.
What is new in 8.1

1. What is new in 8.1

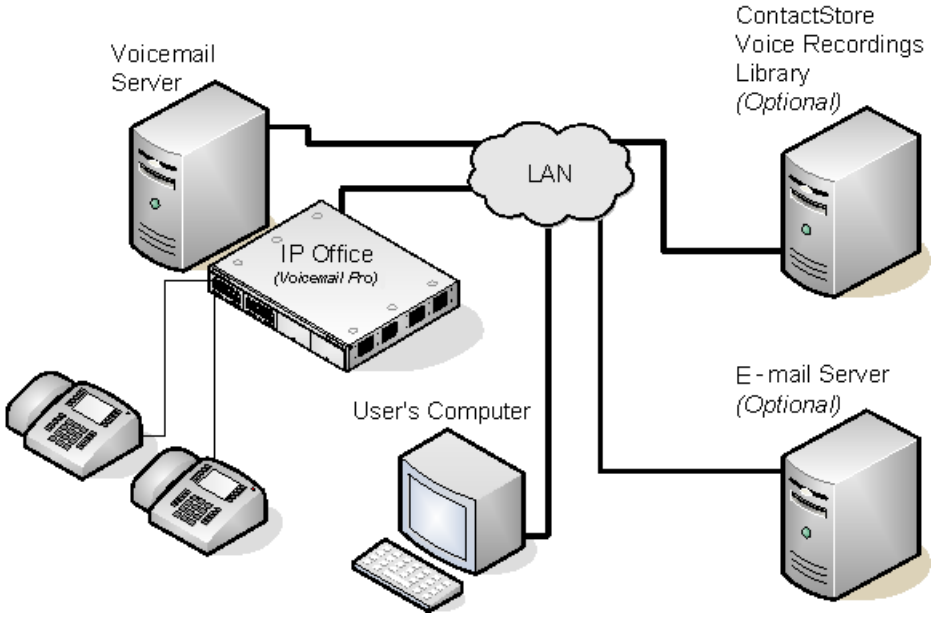
The following is a summary of the new features in Voicemail Pro 8.1.

- **Support for IP Office Server Edition**
  On IP Office Server Edition, a **Server Edition** license provides all the Voicemail Pro features that are provided by the **Preferred Edition** license on IP500 and IP500 V2. The maximum number of ports that you can simultaneously use for voicemail operation on IP Office Server Edition with a **Server Edition** license is 100.
- **Synchronization of primary and backup voicemail servers**
  Apart from call flows, voicemail messages, greetings, and recorded names, the synchronization between the primary and the backup voicemail servers now also includes the registry settings, user variables, SMTP mappings, and alarms. However, the synchronization excludes the directory locations, settings specific to Voicemail Pro client, Voicemail Pro IIS port settings, Campaign settings, Service SID of the Voicemail Pro service, and backup configuration settings.
- **Failback operation on backup voicemail server**
  In the previous releases, if central server failed and backup server took over the control as the active voicemail server, the system administrator needed to shutdown the backup server for the control to be passed back to the central server. In 8.1, the system administrator can configure backup server to initiate an automatic failback operation to pass the control back to central server.
  The system administrator can choose from three different modes of failback operation to configure on backup server - manual, graceful, and automatic. In manual mode, the system administrator needs to shutdown backup server. In graceful mode, backup server hands over the control to central server immediately after all the active voicemail calls on the backup server come to an end. In automatic mode, backup server waits for the failback operation timeout before handing over the control to central server, and if all the active voicemail calls on the backup server come to an end before the timeout, the handover of the control is immediate.
- **Restriction on minimum length of mailbox password**
  You can now set a restriction on the minimum length of a mailbox password. Use the general system preference **Min. Password Length** 97 for the purpose. The minimum value that you can set is 0 in IP Office mailbox mode and 2 in Intuity emulation mode. The maximum value is 15.
- **Using a remote FTP server for backup and restore operations**
  You can now save the backup files generated by either a scheduled backup or an immediate backup to a remote FTP server. Similarly, you can now restore a backup saved on a remote FTP server.
- **VRLA feature support on Linux-based voicemail server**
  You can now configure a Linux-based voicemail server to transfer the saved voice recordings to the Windows-based Voice Recording Library (VRL) application IP Office ContactStore using Secure File Transfer Protocol (SFTP). Thereby, you can use the Voice Recording Library Authentication (VRLA) feature on a Linux-based voicemail server.

Chapter 2.
Voicemail Pro

2. Voicemail Pro

The diagram illustrates a Voicemail Pro system with some of the setup options.



- **IP Office Control Unit**
  The IP Office Voicemail Pro licenses [12] are entered into the configuration of the IP Office system. The licenses are required to activate Voicemail Pro features. You can run an unlicensed Voicemail Pro service for demonstration and testing for a duration of two hours only. License keys are issued against and validated against the unique serial number of the feature key dongle used by the IP Office.
- **Voicemail Pro Server**
  The Voicemail Pro service is installed on a server computer. This becomes the computer where messages and other data are stored for the mailboxes and services provided by Voicemail Pro. The server can be a Windows or Linux based server.
  - **Multiple Servers**
    There are a number of scenarios where multiple Voicemail Pro servers can be supported. For example, to provide a backup voicemail server or to support multiple IP Office systems in a network. See Centralized Voicemail Pro [116].
- **Voicemail Pro Client**
  The Voicemail Pro Client is used to administer the Voicemail Pro service. The client is a Windows application that you can install on another computer to allow remote administration of the server. Only one client can connect to the server at any time.
  - The version of a Voicemail Pro client used with a Voicemail Pro server should match. If the Voicemail Pro client is used to load a call flow from an earlier version of Voicemail Pro server, you will be warned that if you edit the call flow you will not be able to save it back to the original server. If the client is used to load a call flow from a later version of Voicemail Pro server it will stop the action and prompt that the call flow cannot be loaded.
- **Telephone Extension**
  For internal extensions, the voicemail server provides message waiting indication. This is done automatically for the telephone user's own mailbox. However, the user can also be configured to receive message waiting indication for other mailboxes.
- **User's Computer**
  In addition to accessing mailbox voicemail messages through the telephone, there is a range of methods for accessing messages from a user's computer. This can be by web browser, IMAP e-mail account, Exchange server e-mail account, and various other options. The IP Office one-X Portal for IP Office and IP Office Phone Manager applications can also be used.
- **E-mail Server**
  Using an e-mail server, Voicemail Pro can provide a number of services. This includes the ability to send message alerts or message copies. For Exchange e-mail servers, with the forward to e-mail option, the Exchange server can be used as the message store with users accessing their messages using Exchange clients such as Microsoft Outlook, Outlook Web Access, and so on.
- **ContactStore Server**
  In addition to taking voicemail messages, the Voicemail Pro can be used for automatic and manual call recordings. These recordings are stored in the voicemail server mailboxes. ContactStore for IP Office is an additional licensed application to which recordings can be transferred for long term storage. ContactStore supports archiving to DVD, access by web browser, and searching based on call details.
  - Installation of ContactStore for IP Office is covered in its own separate installation manual. For proper functioning, install and test Voicemail Pro before installing ContactStore for IP Office.

2.1 Supported Languages

By default, the prompts installed match the installer language selection plus English. If other languages are required, they need to be selected by doing a custom installation. The installable Voicemail Pro prompts are listed in the table below. The availability of a language in voicemail does not necessarily indicate support for IP Office in a country that uses that language.

Language	WAV Folder	Fallback Selection	TTS Windows
Brazilian Portuguese	ptb	> pt > en.	✓
Chinese (Cantonese)	zzh	> en > enu.	✓
Chinese (Mandarin)	ch	> en > enu.	✓
Danish	da	> en.	✓
Dutch	nl	> en.	✓
English UK	en	en.	✓
English US	enu	> en.	✓
Finnish	fi	> en.	✓
French	fr	> frc > en.	✓
French Canadian	frc	> fr > enu > en.	✓
German	de	> en.	✓
Greek	el	> en.	✓
Hungarian	hu	> en.	✗
Italian	it	> en.	✓
Korean	ko	> en.	✓
Latin Spanish	eso	> es > enu > en.	✓
Norwegian	no	> en.	✓
Polish	pl	> en.	✓
Portuguese	pt	> ptb > en.	✓
Russian	ru	> en.	✓
Spanish	es	> eso > en.	✓
Swedish	sv	> en.	✓

When the IP Office routes a call to the voicemail server, it indicates the locale for which matching prompts should be provided, if available. Within the IP Office configuration, a locale is always set for the system. However, differing locales can be set for each user, incoming call route, and short codes in addition to the default system locale.

The locale sent to the voicemail server by the IP Office is determined as follows:

Locale Source	Usage
Short Code Locale	The short code locale, if set, is used if the call is routed to voicemail using the short code.
System Locale	If no user or incoming call route locale is set, system locale is used, unless overridden by a short code locale.
Incoming Call Route Locale	The incoming call route locale, if set, is used if the caller is external.
User Locale	The user locale, if set, is used if the caller is internal.

If the prompts matching the IP Office locale are not available, the voicemail server will provide prompts from a fallback language, if available. The above table of languages lists the order of fallback selection.

If required, the language provided by a voicemail call flow can be changed using a  **Select System Prompt Language** action.

TTY Teletype Prompts

TTY (Teletype (Textphone)) is included in the list of installable languages. TTY is a text-based system that is used to provide services to users with impaired hearing.

2.2 Voicemail Pro Licenses

The **Help** | **About** screen in the voicemail client can be used to check which IP Office the voicemail server is working and the licenses it has received from that IP Office.

The license keys are entered into the IP Office configuration using the IP Office Manager. If the Voicemail Pro server is installed without licenses, it will run for 2 hours and then shut down.

For IP Office Release 6 and higher, support for Voicemail Pro is enabled by the addition of a **Preferred Edition** license.

- **Preferred Edition (Voicemail Pro) :**
  This license enables support for Voicemail Pro as the IP Office's voicemail server with four voicemail ports. A voicemail server with the **Preferred Edition** license provides the services listed below. Additional licenses can be added for additional voicemail features, these are detailed separately. The **Preferred Edition** license was previously called **Voicemail Pro (4 ports)**.
  - Mailboxes for all users and hunt groups.
  - Announcements for users and hunt groups.
  - Customizable call flows.
  - Call recording to mailboxes.
  - Campaigns.
  - TTS e-mail reading for users licensed for **Mobile User** or **Power User** profiles.
  - Use of **Conference Meet Me** functions on IP500, IP500 V2, and Server Edition systems.
- **Advanced Edition :**
  The **Advanced Edition** license enables the additional features listed below. A **Preferred Edition** license is a pre-requisite for the **Advanced Edition** license.
  - Support for Customer Call Reporter.
  - Voicemail Pro database interaction (IVR).
  - Voicemail Pro call flow generic TTS (8 ports).[1]
  - Voicemail Pro Visual Basic Scripting.
  - Voicemail Pro call recording to ContactStore.[2]

  1. Provides up to 8 ports of TTS for use with Speak Text actions within call flows.
  2. In a Small Community Network using centralized voicemail, this license only enables ContactStore support for the central IP Office. Remote IP Offices in the network require their own **Advanced Edition** license or a **VMPro Recordings Administrator** license.
- **Server Edition :**
  On IP Office Server Edition, the **Server Edition** license provides all the Voicemail Pro features that are provided by the **Preferred Edition** license on IP500 and IP500 V2.
- **Additional Voicemail Pro Messaging Ports**
  The required license for Voicemail Pro server support (**Preferred Edition (Voicemail Pro)**) also enables four voicemail ports. This license can be used to add additional voicemail ports up to the maximum capacity of the IP Office system (IP406 V2 = 20, IP412 = 30, IP500 = 40, IP500 V2 = 40, IP Office Server Edition = 100). This license was previously called **Additional Voicemail Pro (ports)**.
  VMPro Recordings Administrators :
  To support ContactStore in a Small Community Network, IP Offices other than the central IP Office require either their own **Advanced Edition** license or this license.
- **VMPro Networked Messaging :**
  Enables the VPNM (Voicemail Pro Networked Messaging) functionality within Voicemail Pro. Enabling VPNM is required for message exchange with remote Voicemail Pro systems and Avaya Interchange systems.
- **VMPro TTS (Generic) :**
  This legacy license enables use of text-to-speech facilities using third-party TTS software with Voicemail Pro. One license per simultaneous instance of TTS usage. The IP Office **Advanced Edition** license also enables eight ports of generic TTS.
- **VMPro TTS (ScanSoft) :**
  This legacy license enables use of text-to-speech facilities using Avaya-supplied TTS software with Voicemail Pro running on a Windows server. One license per simultaneous instance of TTS usage.

Legacy Licenses

The following legacy licenses are still supported by IP Office Release 6 and higher.

- **UMS Web Services**
  This legacy license is used to enable UMS voicemail services support for users set to the ***Basic User*** profile. Other users are enabled for UMS through their licensed user profile.
- **VMPro Database Interface :**
  This legacy license enables third-party database support within Voicemail Pro call flows. For IP Office Release 6 and higher, this is also enabled by the **Advanced Edition** license.
- **VMPro VB Script :**
  This legacy license enables Visual Basic Script support with Voicemail Pro. For IP Office Release 6 and higher, this is also enabled by the **Advanced Edition** license.

2.3 Number of Simultaneous Users

All connections between the voicemail server and IP Office are through LAN using data channels. The maximum number of data channels that can be used for voicemail operation at any moment are shown below.

IP Office	Maximum for Voicemail Pro
IP500	40
IP500 V2	40
Server Edition	100

The actual number of simultaneous users is determined by the licenses for Voicemail Pro 12 added to the IP Office configuration. Note that some specific functions can have voicemail channels reserved 93 for their use or can have channel restrictions.

Chapter 3. Installation

3. Installation

Windows Server Installation

This section covers the installation of the Voicemail Pro server on a Windows server computer. Voicemail Pro 8.1 can be installed with the following IP Office systems running IP Office Release 8.1 software:

- **IP Office 500**
- **IP Office 500v2**
- **IP Office Server Edition**

Mixing Linux and Windows Servers

In scenarios where multiple Voicemail Pro servers are used, a mix of Linux-based and Windows-based servers can be used. For details on scenarios where multiple Voicemail Pro servers are used, see Centralized Voicemail Pro 116.

3.1 General Installation Requirements

Here is a list of general requirements for all types of voicemail installation.

- A client computer with IP Office Manager and Microsoft .NET Framework versions 2.0 installed on it. If .NET 2.0 is not detected, you will be prompted to install it before the Voicemail Pro installation proceeds.
- An IP Office Feature Key. For details, see *Avaya IP Office Standard Version Installation* (15-601042).
- Licenses based on the serial number of the IP Office Feature Key. These should include:
  - A license for Voicemail Pro and any additional voicemail ports is required. If Voicemail Pro Server is installed without a license it will run for two hours and then shut down.
  - Licenses for any other Voicemail Pro components being installed, see Voicemail Pro Licenses 12.
- Latest version of the IP Office Applications DVD or the IP Office Unified Communications Module Software along with the latest fixes and patches. To get the latest version of a required software, visit http://support.avaya.com.

Tips

- Before you begin to install Voicemail Pro, check that the computer that you are using can connect to the IP Office unit and that you can load and save a configuration file using IP Office Manager.
- Switch off any computer and hard disk sleep, power down, suspend, hibernation modes.
- Install the Voicemail Pro software using an account with full administrator rights on the computer. The service subsequently runs under that account. If you prefer, create a separate account for this purpose and configure it such that the account password does not expire.

3.1.1 Computer Specifications

The Voicemail Pro application requires various licenses entered into the IP Office configuration to control the features it offers and the number of simultaneous connections[13]. The number of simultaneous connections can be up to 40 on IP Office 5.0+ IP500 control units and up to 100 on IP Office 8.1+ IP Office Server Edition control units. The operation of Voicemail Pro can be customized to provide special services.

The Voicemail Pro software can be installed as separate Voicemail Pro client and server parts. You can perform remote administration of the Voicemail Pro server from a computer with just the Voicemail Pro client installed. A copy of the client is automatically installed locally with the Voicemail Pro server.

Source	
DVD	IP Office 8.0 Application DVD (Disk 1).
Languages	See Supported Languages[11].
IP500	✓ IP Office Preferred Edition.
IP Office Server Edition	✓ Server Edition
License	✓ See below.

The Voicemail Pro server part of the software consists of several components in addition to the core server software, these are:

- **Campaigns**
  The Voicemail Pro can be configured to run a campaign. This consists of a series of questions for which the Voicemail Pro records the callers answer or key presses. With International Time Zone (ITZ) support, the Voicemail Pro records the IP Office time and not the Voicemail Pro local time. The resulting recordings can then be played back by users. Users can use the web aspect of campaigns to perform this playback and processing of campaign recordings via their web browser. This requires an IIS web server to be run on the same computer as the Voicemail Pro software.
- **UMS Web Voicemail**
  Users can use UMS to access their voicemail mailbox using either an IMAP compatible e-mail program or through their web browser. UMS Web Voicemail requires the Voicemail Pro service to be installed on a server computer that has IIS already present. It also installs PHP if not detected as already present.
- **Text to Speech (TTS)**
  Through adding additional licenses, the Voicemail Pro is able to use the TTS functions of Windows to speak text and numbers to callers in addition to recording prompts. This is intended mainly for scenarios where the Voicemail Pro is obtaining text and number values from a customer database.

- **Installation on Windows Server Operating Systems**
  On many Windows server computers, while the Windows Audio components are present by default they are not always enabled. If this is the case the playback of voice prompts may be 'choppy' and the TTS (if installed) will not work. However, enabling Windows Audio does not require the server computer to have a sound card installed.
  1. Verify that you have full administrator rights for the computer.
  2. Click **Start** | **Administrative Tools** | **Services**.
  3. If the status of the **Windows Audio** service is not **Started**, start the service and set the **Startup Type** to **Automatic**.

Notes:

1. Do not use the **Large Fonts** setting, as it may cause options on some screens to become inaccessible.
2. For a good connection speed, use a 100 Mbps network card.
3. Free disk space requirements[21] are also subject to the message storage required.

Basic Voicemail Pro

Minimum Hardware Requirements	
RAM	256MB
Hard Disk Free Space	2GB*
Processor:	
- Pentium	P4 1.4GHz
- Celeron	Any 1.7GHz
- AMD	Any 1.4GHz.

*Add 1MB per minute of message and prompt storage space as per your requirements.

Operating System Support		
Server OS:	**Service**	**Client**
2003 Server	✓	✓
2008 Server	✓	✓
Client OS:		
XP Professional	✓	✓
Vista	✓	✓
Windows 7	✓	✓

Voicemail Pro plus UMS Web Voicemail and/or Campaigns

Minimum Hardware Requirements	
RAM	512MB
Hard Disk Free Space	2GB*
Processor:	
- Pentium	P4 2.8GHz
- Celeron	Not tested.
- AMD	Athlon XP 3000+, Athlon 64

*Add 1MB per minute of message and prompt storage space as per your requirements.

Operating System Support		
Server OS:	**Service**	**Client**
2003 Server	✓	✓
2008 Server	✓	✓
Client OS:		
XP Professional	✗	✗
Vista	✗	✗
Windows 7	✗	✗

- Both Web Campaigns and UMS Web Voicemail require the IIS web server on the voicemail server computer to be enabled.
- UMS Web Voicemail will install PHP if not detected as already installed.

Voicemail Pro plus IVR and or TTS

Minimum Hardware Requirements: Basic Voicemail Pro	
RAM	512MB
Hard Disk Free Space	20GB*
Processor:	
- Pentium	P4 2.8GHz
- Celeron	Not tested.
- AMD	Athlon XP 3000+, Athlon 64

Add 1MB per minute of message and prompt storage space as per your requirements.

*Generic TTS only. The current ScanSoft TTS provided with Voicemail Pro is not supported on Vista.

Operating System Support		
Server OS:	**Service**	**Client**
2003 Server	✓	✓
2008 Server	✓	✓
Client OS:		
XP Professional	✓	✓
Vista	✗	✗
Windows 7	✗	✗

- If the database being queried is located on the Voicemail Pro server, the query speed of the database will be affected by the amount of memory available. You must take into account the memory requirements of the database being queried.

Pre-requisites

For systems running the 64-bit version of Windows Server 2008 SP1, install the KB2538242 security update.

Voicemail Pro and IP Office Customer Call Reporter

Voicemail Pro and IP Office Customer Call Reporter can be run on the same server up to a maximum of 16 Voicemail Pro ports. Supported on a Dual Core CPU of 2.4Ghz and higher. The separate requirements of Voicemail Pro and Customer Call Reporter must be met.

Ports

The Voicemail Pro service uses the following ports.

Port Number	Type	Description
25	TCP	Used to listen for SMTP connections.
37	UDP	Used to receive time requests (RFC 868).
143	TCP	Used to service IMAP4 requests.
50791	UDP	Used to receive requests from IP Office PBX.
	TCP	Used to receive requests from one-X Portal for IP Office.
50791	TCP	Used to receive connections from Voicemail Pro client.

Note that Voicemail may use additional ports for connection to services such as third-party database or Microsoft Exchange.

Notes:

1. Do not install Voicemail Pro server on a computer that runs the Domain Name System (DNS) Server service, as the DNS Server service might prevent the Voicemail Pro service from obtaining the ports that the Voicemail Pro service requires to function correctly.

   If you must install Voicemail Pro on a computer running the DNS Server service, refer to the following for the additional configuration requirements:
   http://technet.microsoft.com/en-us/library/ee683907%28WS.10%29.aspx
   http://support.microsoft.com/kb/956188
   http://support.microsoft.com/kb/929851
2. Do not install Voicemail Pro on a computer that runs an Exchange server, as the SMTP configuration settings of Voicemail Pro server might create conflicts with those of the Exchange server.

3.1.2 Single Server Support

The following scenarios are supported for combining IP Office server applications onto a single Windows server computer.

In all cases, the individual requirements of each application as if installed on a separate server are still applicable. Also, depending on the application combination, additional restrictions and requirements may be applied as detailed below.

	Voicemail Pro	Customer Call Reporter	One-X Portal for IP Office	Minimum IP Office Release	Minimum Computer Specifications
1.	**16 Ports**	**150 Agents**	**–**	Release 5.0	As per each application.
2.	**8 Ports (4 TTS)**	**–**	**50 Simultaneous users.**	Release 6.0	2GHz Dual Core, 4GB RAM, Windows 2008 Server (32 or 64-bit).
3.	**8 Ports (4 TTS)**	**30 Agents**	**50 Simultaneous users.**	Release 6.0	2GHz Quad Core, 6GB RAM, Windows 2008 64-bit.
4.	**16 ports (8 TTS)**	**50 Agents**	**150 Simultaneous users.**	Release 6.0	CCR run in Windows 2003 on a virtual server.

- Voicemail Pro includes UMS, VB Scripting and 3rd party database operation. It also includes the installation of ContactStore if required.
- Both ContactStore and one-X Portal for IP Office use Tomcat servers as part of the application. For scenarios with both installed, the redirect port setting of the ContactStore's Tomcat server should be configured to a port other than 8080.
- When used in a virtual server configuration, Customer Call Reporter and one-X Portal each require a 2GB RAM virtual machine. Voicemail Pro and ContactStore each require a 1GB RAM virtual machine.

3.1.3 Virtual Server Support

Operation of IP Office server applications, including Voicemail Pro, is supported using the following virtual servers.

- **VMWare Server.**
- **Microsoft Virtual Server 2005 R2.**
- **Microsoft Server Hyper-V.**

3.1.4 Network Requirements

The computer should be configured and tested for TCP/IP networking.

The voicemail server computer must be connected to the IP Office Control Unit directly or through a LAN switch.

If directly connected, changing the settings of the computer network card to match the IP Office control unit can resolve some issues. This should be done according to the computer or network card manufacturer's instructions. The options for IP Office LAN ports are:

- All IP Office LAN ports are 10Mbps/100Mbps auto sensing.

If not directly connected, using any of the above settings must be supported and matched by the intervening network equipment.

- The computer must have a static IP address.
- If the IP Office is acting as a DHCP server, it defaults to using 192.168.42.2 to 192.168.42.201 for DHCP clients. This leaves 192.168.42.202 to 192.168.42.254 for devices that require fixed IP addresses.

3.1.5 Disk Space Requirements

The following are only approximations:

- At least 2GB of free disk space is required on the operating system drive (by default c:), regardless of to which drive Voicemail Pro is actually installed.
- A compact Voicemail Pro installation requires 130MB.
- A typical installation requires approximately 255MB.
- A custom installation requires up to 2GB of disk space. However, prompts and recorded messages consume an additional 1MB of disk space per minute.
- For a busy environment you can expect to require at least 1000 minutes of message recording space, that is 1GB.
- If you are installing the Client only, you can expect to require at least 170MB.

3.1.6 Web Server Operation

If a Web browser access is required, the Microsoft IIS Web Server must be installed on the server computer **before** Voicemail Pro is installed:

- Microsoft web server products run as services and require Voicemail Pro to also run as a service.
- Internet Information Server 5.0 or higher is required.

3.1.7 ContactStore Operation

ContactStore is the current IP Office Voice Recording Library (VRL) application. For details on ContactStore, see *Avaya IP Office ContactStore* (15-601037).

You must do the following to use ContactStore with Voicemail Pro:

- Install the latest version of IP Office ContactStore along with the available patches and verify its operation before you install Voicemail Pro.
- Use different hard disk partitions to store the archived IP Office ContactStore messages and the Voicemail Pro messages. Alternatively, you may use a different hard disk to store the archived IP Office ContactStore messages, or install IP Office ContactStore on a different computer.
- As you require additional Voicemail Pro licenses to use ContactStore to store recordings, enter an **Advanced Edition** license key on IP Office hosting the Voicemail Pro server. If you are using a Small Community Network, enter either **Advanced Edition** license keys or **VMPro Recordings Administrators** license keys on other IP Offices in the network that you want to use with ContactStore.
- Use RAID 1 or RAID 5.
- Use a DVD recorder for long-term archiving.
- Use a hard drive that has enough space to store the archived recordings. You need approximately 7.2MB of hard disk space to store an archived recording of one hour duration.
- Verify that no other web service running on the host computer is using the port address 8888, as the system uses the non-configurable port address 8888 to access the archived messages stored in IP Office ContactStore through a web interface.

3.1.8 SFTP Server Requirements

To be able to use some of the features of voicemail server (for example, the remote backup operation, VRLA, and so on), you must install and configure an SFTP server. You can choose to install any of the commercial or free SFTP server applications, for example the **freeFTPd** application. However, ensure the following for the SFTP server to work with the voicemail server:

- Configure port **22** to accept incoming connections to the SFTP server.
- Create a separate user account on the SFTP server for use with the voicemail server.
- If the SFTP server application requires you to set permissions for the user account, set the **Read**, **Write**, and **Delete** file permissions and the **List**, **Create**, and **Delete** folder permissions for the user account.

SFTP configuration requirements for VRLA feature on Linux-based server

For the VRLA feature to work on a Linux-based voicemail server, you must:

- Install the SFTP server on the computer that runs the ContactStore application.
- Set the **Home directory** of the user account such that the VRL directory (specified by the value of the registry entry **HKEY_LOCAL_MACHINE->SOFTWARE->Network Alchemy->Voicemail->Directories->VRLDir** on a 32-bit system and **HKEY_LOCAL_MACHINE->SOFTWARE->Wow6432Node->Network Alchemy->Voicemail->Directories->VRLDir** on a 64-bit system) lies inside the SFTP directory structure.
  For example, if you set *C:\asdf\xyz* as the VRL directory, then set either *C:\asdf\xyz* or *C:\asdf* as the Home directory of the SFTP user account.

Testing and troubleshooting the SFTP connection

1. Log in to the command line interface as the root user on the voicemail server.
2. Enter `Sftp <username>@sftpIP`, where `<username>` is the username of the SFTP user account.
3. Enter the password of the SFTP user account.
   The SFTP connection should get established.
4. If the SFTP connection is not established, then:
   a. On the computer that runs the SFTP server, check if any other application is using port 22 for an SFTP connection. If yes, stop the application.
   b. Clear all the entries in **/root/.ssh/known_hosts** that are associated with the IP address of the SFTP server.

3.2 Server/Client Installation

The Voicemail Pro installation software for Windows offers a number of different types of installation. The key types are client only, compact, typical and custom. These differ in the components installed as detailed in the table below.

Component	Sub Component	Installation Type				Notes
		Client	Compact	Typical	Custom	
Voicemail Pro	**Voicemail Pro Client**	✓	✓	✓	✓	
	Voicemail Pro Service	✗	✓	✓	✓	
	Languages	✓	✓	✓	✓	Installs the prompts that best match the server computer locale plus English prompts. For an installation with additional languages use the Custom installation option.
Voicemail Pro Campaign Web Component		✗	✗	✓	✓	Not available for installation on an XP Pro server.
Web Voicemail (UMS)		✗	✗	✗	✓	Only available for installation on server operating systems.

Before you begin:

1. Log on to the server computer using the user account under which you intend the Voicemail Pro server or service to run. This user account must have full administrator rights to the server computer. You must update the Voicemail Pro service password if the user account password is changed.
   To ensure that the voicemail service does not get interrupted, create a new user account called Voicemail and configure it such that it has full administrator rights on the computer and the account password does not expire.
2. In IP Office Manager, check that the correct licenses for Voicemail Pro 12 have been installed and show a status of ***Valid***.
3. For installations other than client-only and compact, check that the required pre-installation processes have been completed.

- **Web Campaigns Installation** 27

- **Voicemail E-mail Installation** 54
- **UMS Web Voicemail** 32
  - **IMAP Installation** 33
  - **Web Voicemail Installation** 36
  - **UMS Exchange Configuration** 42
- **Centralized Voicemail Pro** 116
- **Installing Text to Speech Features** 71
- **Voicemail Private Networked Messaging (VPNM) Installation** 134

- **Installation on Windows Server Operating Systems**
  On many Windows server computers, while the Windows Audio components are present by default they are not always enabled. If this is the case the playback of voice prompts may be 'choppy' and the TTS (if installed) will not work. However, enabling Windows Audio does not require the server computer to have a sound card installed.

  1. Verify that you have full administrator rights for the computer.
  2. Click **Start** | **Administrative Tools** | **Services**.
  3. If the status of the **Windows Audio** service is not **Started**, start the service and set the **Startup Type** to **Automatic**.

To install the Voicemail Pro software components:

1. Insert the IP Office Applications DVD. Click on the link for Voicemail Pro and then double-click on **setup.exe**.
2. The **Choose Setup Language** menu is displayed. This language is used for the installation process and does not affect the language prompts that are installed.
3. Select the language for the installation process. Click **OK**.
4. The **Preparing Installation** menu is displayed.
   - Voicemail Pro requires Microsoft .NET 2.0 Framework. If this is not detected, you will be prompted to install it. Click **Yes** to install Microsoft .NET 2.0 Framework.
   - If the **Modify, repair or remove the program** window is displayed, follow the upgrade process 29.
5. The **Welcome** window is displayed. Click **Next**.
6. The **Customer Information** menu is displayed.
   - Use the default names or enter a user and company name. These settings do not affect the Voicemail Pro installation.
   - Select the option **Anyone who uses this computer (all users)**.
   - Click **Next**.
7. The **Choose Destination Location** menu is displayed. Unless specifically required, for ease of maintenance, use the proposed folder location. Click **Next**.
8. The **Messaging Components** menu is displayed.
9. Select ***Voicemail Pro (Full)*** or ***Voicemail Pro Client - Only***. Click **Next**. If ***Voicemail Pro Client - Only*** was selected, go to step 14 24.
10. The **Setup Type** menu is displayed. Select ***Compact***, ***Typical*** or ***Custom*** and click **Next**.
    - If the option selected was ***Custom***, the **Select Features** menu is displayed. Select the components required for the installation and click **Next**.
11. The **Service Account Name** window is displayed. This window is used to select the account under which the Voicemail Pro services will be run following installation.
    - Enter the user name and password of the account to use. Alternatively, click **Browse** and select a name from the list of available computer or network accounts.
    - Click **Next**. The account name and password are validated. If the validation fails, the system prompts you whether to create a new account that matches the details entered.
12. The **Select Program Folder** menu is displayed. By default, the program folder for the Voicemail Pro client is set to IP Office. For ease of maintenance use this option unless there is a specific reason to use a different folder. Click **Next**.
13. The **Start Copying Files** menu is displayed. It shows a summary of the components that are about to be installed. Check that this list is as expected. If for any reason the details are not what you expect, click **Back** and make the required changes. When you are satisfied that the details are correct, click **Next** to start copying the files.
14. The **Setup Status** menu is displayed. This shows you the progress of the file installation. For a client only installation, the software installation process is now completed.
    Note: You may get the prompt to reset IIS. If so, click **Yes** to reset IIS. If you click **No**, some of the functionalities may not be available until you restart IIS.
15. The **InstallShield Wizard Complete** menu is displayed.
16. Depending on the operating system and the components installed you may be prompted to restart the computer. If so select ***Yes, I want to restart my computer now***.
17. Click **Finish**.
18. If the computer restarts, you will need to log in to continue the installation process.
19. The installation process continues by requesting a number of configuration settings used by the voicemail server services,
    1. The **IP Office Voicemail Pro E-mail Settings** window is displayed. This is used to enter the account that the voicemail pro server should use for e-mail functions. Enter the name of the e-mail account to use or click **Browse** and select an account to use. Click **Next**.
    2. The **IP Office Voicemail Pro SMTP E-mail Settings** window opens.
    3. In the **Mail Server** box, type the name of the SMTP mail server or use the name that is proposed. This should be the fully qualified domain name.
    4. In the **Port Number** box, type the number of the receiving port on the SMTP mail server. The default is 25.
    5. To enforce server authentication, check the **Server Requires Authentication** box. This is optional. If you check it you also need to provide the Account Name and Password that need to be entered. You can also choose whether or not to set the Use Challenge Response Authentication option.

6. Click **Finish**. The e-mail settings are validated. An error message is displayed if the system fails to connect to an SMTP server. Click **OK** to acknowledge the message.

20. You have now finished installing the Voicemail Pro server and client software.

21. If you use custom installation to install a specific Voicemail Pro feature, refer to the appropriate section for details of actions that need to be performed after the installation of the Voicemail Pro server software.

- **Web Campaigns Installation** 27
- **Voicemail E-mail Installation** 54
- **UMS Web Voicemail** 32
  - **IMAP Installation** 33
  - **Web Voicemail Installation** 36
  - **UMS Exchange Configuration** 42
- **Centralized Voicemail Pro** 116
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Initial Configuration

Following installation of the server and client, you should check operation by using the client to connect to the server.

1. Click **Start** | **Programs** | **IP Office** | **Voicemail Pro**. The Voicemail Pro Client starts and the main window opens.
2. Change the default remote administrator account details:
   a. In the navigation panel, click on **Voicemail Pro Administrators**. There should be one account called ***Administrator***.
   b. Double-click on the account (or right click and select **Modify**).
   c. Change the **Password** and **Confirm Password** to a new value than the default (***Administrator***).
3. Initialize the server call flow:
   a. Click the  **Save and Make Live** icon.
   b. Select **Yes**. The file ***root.vmp*** is created on the server. This is the compiled non-editable version of the call flow that is used by the server.
   c. Voicemail operation can now be tested from an extension by dialing ***17**.
4. You can now start configuring the operation of the voicemail server, for example changing the system preferences 96.

3.2.1 Modifying the Installed Components

1. Open the Windows **Control Panel**.
2. Click **Programs** | **Programs and Features**.
3. In the list of installed programs, select **IP Office Voicemail Pro** and click **Change**.
   The installation wizard for IP Office Voicemail Pro opens up.
4. Select **Modify** and click **Next**.
   The **Select Features** menu is displayed.
5. Select the check boxes for all the features in the list that you want to install.
   Note: If you clear the check box for a feature that is already installed, the installation wizard will uninstall the feature.
6. Click **Next**.
   The **Service Account Name** window is displayed.
7. Continue with the installation wizard following the steps from the **To install the Voicemail Pro software components** section of Server/Client Installation 22.

3.2.2 Web Campaigns Installation

The web campaigns component of Voicemail Pro requires IIS to be installed and running on the server computer.

1. Check that IIS is installed and running on the server computer.
   - Windows 2008 Server IIS does not support legacy IIS applications such as Campaigns by default. This is rectified by reinstalling IIS from the Windows installation disk and selecting **Legacy IIS support** during the installation.
2. Check that the server computer can be browsed from the other computers on the customer network.
3. If the Voicemail Pro server software has not yet been installed:
   - Run the Voicemail Pro software installation 22 and select ***Voicemail Pro (Full)***.
   - Select either ***Typical*** or ***Custom***. If ***Custom*** is selected, select ***Voicemail Pro Campaign Web Component*** in the list of components.
4. If the Voicemail Pro server software is already installed:
   - Modify the installed components and select ***Voicemail Pro Campaign Web Component*** in the list of components.

Windows 2008 Server

The following configuration changes are required for IIS version 7 after installation of the Voicemail Pro web campaigns component.

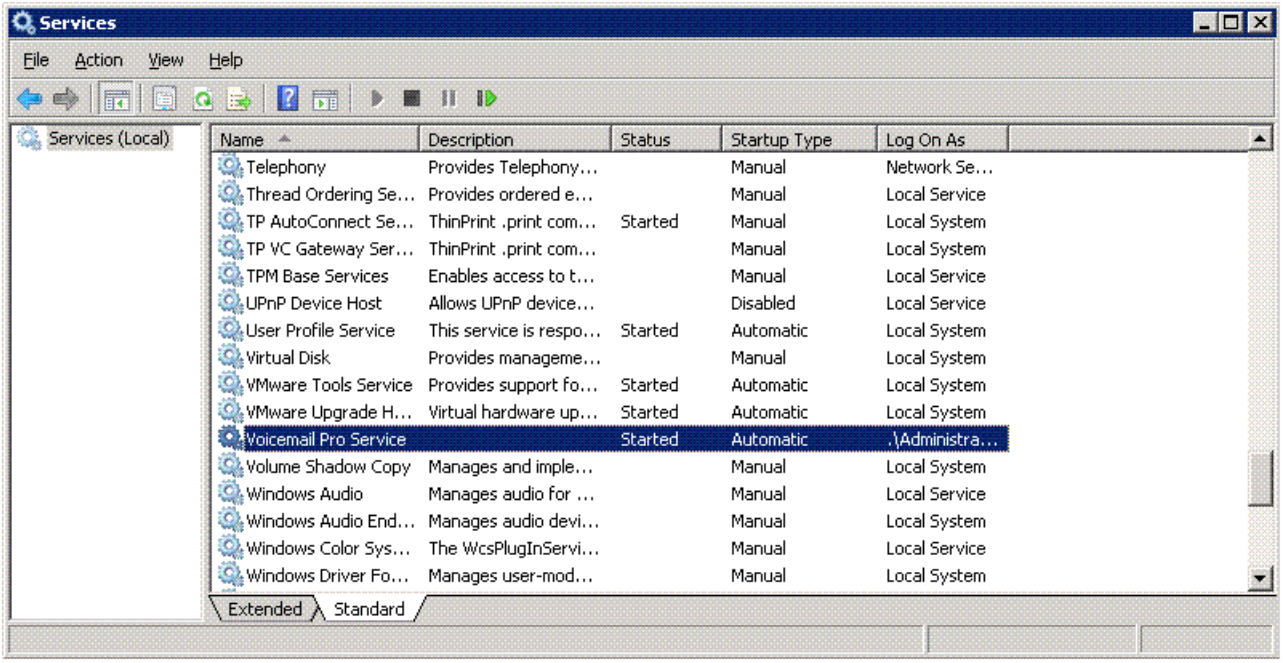
1. Click **Start** | **Administrative Tools** | **Internet Information Services (IIS) Manager**.
2. In the **Connections** pane, click the server node in the tree.
   The server **Home** page is displayed.
3. In **Features View**, double-click **Handler Mappings**.
4. Click **Edit Feature Permissions**.
5. Check the **Scripts** and **Execute** check boxes.
6. Click **OK**.
7. In the **Connections** pane, expand the server node in the tree.
8. Expand the **Sites** node, then expand the **Default Web Site** node, and select **Campaign**.
   The **Campaign Home** page is displayed.
9. In **Features View**, double-click **Authentication**.
10. Click **ASP .NET Impersonation**.
11. In the **Actions** pane, click **Disable**.

3.2.3 The Voicemail Pro Services

If you have installed Voicemail Pro successfully and rebooted the server computer, then the voicemail service starts automatically. However, you can restart the service manually, if required.

To check/restart the Voicemail Pro Service:

1. Click **Start** | **Administrative Tools** | **Services**.



2. The **Voicemail Pro Service** should be visible. Its **Status** should be ***Started*** and the **Startup Type** should be set to ***Automatic***. Other services may be present depending on the installed Voicemail Pro features. The **Voicemail Pro Service** is the main Voicemail Pro service. This is the only service that needs to be stopped and restarted. It will stop and restart the other services that it uses.
3. Close **Services**.

Setting the Voicemail Pro Service or Computer to Restart Automatically

The following action is optional. If a fault causes the Voicemail Pro service to stop, the fault should be investigated and fixed. However, setting the options to restart the services or the computer automatically will minimize the disruption to the Voicemail Pro users.

1. Click **Start** | **Administrative Tools** | **Services**.
2. Right-click **Voicemail Pro Service** and select **Properties**.
3. Select the **Recovery** tab.
4. Select the items in the drop-down lists to specify the action that the computer must take in case of failures.

Using a Batch File to Start Services
In some instances, certain computers might not respond quickly enough to start all of the Avaya services in the correct order. In this circumstance, it is advisable to create a batch file which delays the start of these services until the computer is fully running.

Avaya IP Office Services can be started successfully at system start-up using a scheduled task that initiates the batch file below. This batch file ensures that the services will start successfully and in the correct order.

1. Set all Avaya services listed below to Manual start. Do not include Key Server.
2. Create the batch file below and save it to %SYSTEMROOT%. Only include lines for the services which are installed.

```
@echo off
rem Wait 60 seconds before execute.
timeout /t 60
net start Voicemail Pro Service
```

3. Create a scheduled task to start the batch file at system start-up.

3.3 Upgrading Voicemail Pro

This section describes how to upgrade Voicemail Pro.

Note: After you upgrade, the system updates the timestamp associated with the recordings to reflect the time of the associated IP Office instead of the time of the Central Voicemail Pro server. The system does not automatically update the time stamp of Campaign recordings.

The options available are:

- Upgrading from below Voicemail Pro 3.2 29
- Upgrade from 3.2 or higher 30
- Upgrading from Voicemail Lite 31

3.3.1 Upgrade from below version 3.2

It is important that the settings of an existing Voicemail Pro are exported before any upgrade. Although folders that contain prompts and messages are not affected by the upgrade process, the editable version of a customer call flow is lost.

Note: When you upgrade Voicemail Pro to a newer version, the Voicemail Pro server updates the current time zone offset of the user. However, it will not update the campaign information.

To upgrade from below version 3.2 to version 4.x+:

1. Export the Database
Before removing Voicemail Pro as part of an upgrade, you must create a backup copy of the call flow database. This will contain any customizations made to the default call flow.

1. Start the Voicemail Pro Client.
2. From the **File** menu, select the option **Import or Export**.
3. Select the option **Export call flows** and click **Next**.
4. Enter a file path and file name ending in .mdb, for example **C:\temp\backup.mdb**. Click **Next**.
5. Click **Finish** to start the export then click **Close** to complete the export procedure.
6. Close the Voicemail Pro Client.

2. Back up the Registry
Any registry settings that are associated with Voicemail Pro need to be backed up.

1. Insert the **IP Office Applications DVD**. Click on the link for **Voicemail Pro** and then double-click on **setup.exe**. The **Choose Setup Language** window opens.
2. Right-click the DVD drive and select Open.
3. Locate the file ***backupreg.bat*** and double-click it to run the application.
4. Check that the registry settings have been backed up. The batch file should have created 3 backup files in the Windows Temp directory. Make sure that the following 3 files exist in that location:
   - VMPro.arf
   - NetAly.arf
   - IMSGateway.arf

3. Remove Voicemail Pro
Any previous versions of Voicemail Pro must be removed before you start to install the new version.

1. Open the Windows **Control Panel**.
2. Click **Programs** | **Programs and Features**.
3. In the list of installed programs, select **IP Office Voicemail Pro** and click **Uninstall**.

4. Follow the prompts that you see on the screen during the removal process.
5. When the process has been completed, click **Finish**.

4. Restore the Registry

The Voicemail Pro registry settings that were backed up in step 2 29 need to be restored.

1. Insert the **IP Office Applications DVD**. Click on the link for **Voicemail Pro** and then double-click on **setup.exe**. The **Choose Setup Language** window opens.
2. Locate the file *restorereg.bat* and double-click it to run the application. This restores the registry settings previously associated with Voicemail Pro.

5. Install the New Software

See Installing Voicemail Pro 16 and then refer to the sections that relate to the type of Voicemail Pro that you intend to install.

6. Restore the Database

The copy of the call flow database that contained any customizations made to the default call flow needs to be restored.

1. Start Voicemail Pro.
2. From the **File** menu, select **Import or Export**. The Import or Export Call Flows window opens.
3. Select **Import Call Flows**.
4. Click **Next**.
5. Click the **Browse** button and locate the file that contains the backed up call flows.
6. Select the file and click **Open**.
7. In the Import or Export Call Flows window, click **Next**.
8. Click **Finish** to start importing the database.
9. Click **Close** to complete the import process.
10. Click on Save and Make Live to save the Call flows.

The new version of Voicemail Pro has been installed. Test that the system is running by dialing *17 from any extension. You should hear the mailbox announcement.

3.3.2 Upgrade from Version 3.2+

Backup the database before you upgrade.

Note: When you upgrade Voicemail Pro to a newer version, the Voicemail Pro server updates the current time zone offset of the user. However, it does not update the campaign information.

To upgrade from version 3.2 or higher:

1. Insert the **IP Office Applications DVD**. Click on the link for **Voicemail Pro** and then double-click on **setup.exe**. The **Choose Setup Language** window opens.
2. Select the installation language. The language selected is used for the installation.
3. Click **OK**. You are asked *'This setup will perform an upgrade of IP Office Voicemail Pro. Do you want to continue?'*
4. Click **Yes**. The **Upgrading the IP Office Voicemail Pro** window opens.
5. Click **Next** to start the upgrade. The setup status window opens. The progress of the upgrade is indicated by a time bar.
6. Click **Finish**. The **E-mail settings** window opens.
7. Enter your e-mail account details and click **Next**. The **SMTP E-mail settings** window opens.
8. Enter your SMTP E-mail details and click **Finish**. The SMTP settings entered will be validated. If an error occurs, the validating configuration window opens containing the SMTP Error 132.
9. Click **Yes** when prompted whether to start the Voicemail Pro service.
10. The new version of Voicemail Pro has been installed. Test that the system is running by dialing *17 from any extension. You should hear the mailbox announcement.

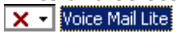
3.3.3 Upgrade to Voicemail Pro

You can upgrade from Voicemail Lite to Voicemail Pro. The steps described here will remove Voicemail Lite but will not remove the existing mailbox messages and greetings.

Note: When you upgrade Voicemail Pro to a newer version, the Voicemail Pro server will update the current time zone offset of the user; however, it will not update the campaign information. Similar is the case with restoring registry settings.

To upgrade from Voicemail Lite to Voicemail Pro:

1.Remove Voicemail Lite

1. Make sure that Voicemail Lite is not running.
2. Open the Windows **Control Panel**.
3. Click **Programs** | **Programs and Features**.
4. In the list of installed programs, select **IP Office Admin Suite** and click **Change**. The Installshield Wizard for IP Office Admin Suite opens up.
5. Click **Next**. The **Program Maintenance** window is displayed.
6. Select **Modify** and click **Next**.
7. In the list of selected **Features**, click the option Voicemail Lite and select **This feature will not be available**. The feature Voicemail Lite will have a red cross by the name. 

.
   - Important - Do not uncheck any other boxes as this will also remove those features.
8. Click **Next**. The Ready to Modify the Program window opens.
9. Click **Install**. The Voicemail Lite program will be removed, which may take several minutes.
10. Click **Finish** to exit the InstallShield Wizard.
11. Click **Close** to close the Add/Remove Programs window.
12. Remove any shortcuts to ***VMLite.exe*** from **Start** | **Programs** | **Startup**.

2.Install the New Software

The next step is to install the Voicemail Pro software. See Installing Voicemail Pro 16 and then refer to the sections that relate to the type of Voicemail Pro that you intend to install.

3.Move the Voicemail Lite Folders

Before users begin to use Voicemail Pro, copy the Voicemail Lite folders that contain voicemail messages and mailbox greetings to Voicemail Pro.

4. Using Windows Explorer or My Computer, locate the folder ***C:\Program Files\Avaya\IP Office\Voicemail Server***.

5. Copy all sub-folders and files in that folder.

6. Paste the sub-folders and files in the folder ***C:\Program Files\Avaya\IP Office\Voicemail Pro\VM***. Replace any existing folders.

7.Select the Mailbox Mode.

Voicemail Lite runs in IP Office mailbox mode. By default Voicemail Pro installs in Intuity mailbox mode. If required by your users, you can set Voicemail Pro back to IP Office mailbox mode.

1. Start the Voicemail Pro Client.
2. Click the Preferences  icon and select **General**.
3. On the General tab, change the Default Telephony Interface from Intuity to IP Office.
4. Click **OK**.
5. Click  **Save & Make Live**.

The new version of Voicemail Pro has been installed. Test that the system is running by dialing *17 from any extension. You should hear the mailbox announcement.

3.4 UMS Web Services

Voicemail Pro Release 4.2 and later adds support for user mailboxes to be accessed using the additional methods listed below. For Voicemail Pro Release 5.0 and later, this has been expanded to include hunt group mailboxes.

- **IMAP E-mail Client Support**
  This method supports mailbox access using any e-mail client that supports IMAP, for example Outlook and Lotus Notes. The Voicemail Pro server computer acts as the IMAP server.
- **Web Voicemail Access**
  This method supports mailbox access using a web browser. Messages can be played back to an IP Office telephone extension or through the computer if the browser is audio enabled. Web Voicemail requires the voicemail server to also run IIS and PHP.
- **UMS Exchange Configuration** *(Voicemail Pro Release 5.0 and later)*
  A user or group can be configured to have their voicemail messages forwarded to the inbox of an Exchange server e-mail account. Telephone, including Visual Voice, mailbox access is redirected to that e-mail inbox as the store for voicemail messages. Alternatively the user can access their voicemail messages using Outlook 2007 or any other mechanisms supported by the Exchange server. Voicemail messages in an Exchange 2007 inbox are not visible to UMS IMAP and UMS Web Voicemail, however Exchange 2007/2010 provides its own methods to use IMAP and web browsing with Exchange mailboxes.

Use of these options requires the user to be licensed, either using an appropriate IP Office user profile license or the legacy UMS Web Services license.

Feature	Web Voicemail	IMAP Client	Exchange 2003	Exchange 2007	Exchange 2010
Playback via computer.	✓	✓	✗	✓	✓
Playback via User Extension.	✓	✗	✗[1]	✗[1]	✗[1]
Save message Wav to computer.	✗	✓	✗	✓	✓
Forward messages to other voicemail mailbox.	✓	✗	✗	✗	✗
Forward messages to other e-mail mailbox.	✗	✓	✗	✓	✓
Undelete manually deleted messages.	✓	✓	✗	✓	✓
Mark message as unread.	✓	✓	✗	✓	✓
Change voicemail password.	✓	✗	✗	✗	✗
Show Message Types	**Web Voicemail**	**IMAP Client**	**Exchange 2003**	**Exchange 2007**	**Exchange 2010**
- New (Unread).	✓	✓	✗	✓	✓
- Old (read).	✓	✓	✗	✓	✓
- Saved.	✓	✓	✗	✗	✗
- Priority.	✓	✓	✗	✓	✓
- Private.	✗[2]	✗	✗	✓	✓
- Deleted.	✓	✓	✗	✓	✓

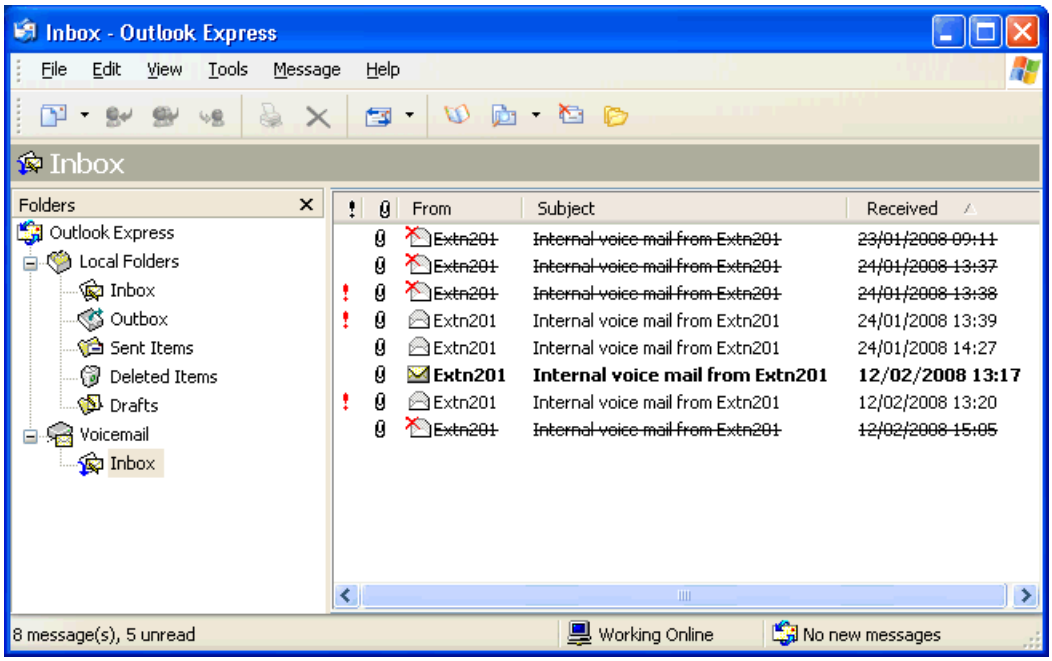
Exchange Unified Messaging supports the playback of messages through a range of options controlled and configured on the exchange server.

1. Private messages are not indicated, however the web voicemail does not support the forwarding of private messages.

3.4.1 IMAP Installation

Voicemail Pro Release 4.2 and later support mailbox synchronization with e-mail clients that can support IMAP (Internet Message Access Protocol) accounts. Examples are Outlook, Outlook Express and Lotus Notes.

Once configured, the IMAP folder and the mailbox are synchronized whenever the IMAP folder is opened. The method of indication of the different message types will depend on the e-mail client being used and is not controlled by the Voicemail Pro.



The number of mailboxes that can be configured for IMAP and/or web access is controlled by licenses.

Installing the Voicemail Pro IMAP Server

The IMAP server is installed as a part of the Voicemail Pro service installation. It uses the IP address of the Voicemail Pro server computer and runs on the standard IMAP port 143. To prevent any conflicts with the Voicemail Pro IMAP server, do not run any other IMAP server on the same computer.

Licensing IP Office for Web Services

UMS web services can be licensed in a number of ways by licenses added to the IP Office configuration:

- **User Licensing**
  User licensing is done as follows.
  - Users whose **Profile** is set to ***Teleworker User*** or ***Power User*** can be licensed using the **Teleworker Profile** or **Power User Profile** licenses.
  - User's whose **Profile** is set to ***Basic User*** can be licensed using the legacy **UMS Web Services** licenses.
- **Hunt Group Licensing**
  Hunt groups are licensed by **UMS Web Services** licenses.

1. Start IP Office Manager.
2. Receive the configuration from the IP Office associated with the Voicemail Pro server.
3. In the **Licenses** section, add the required licenses.
4. Merge the configuration back to the IP Office and then receive the configuration again.
5. In the **Licenses** section check that the **License Status** of the licenses is now shown as ***Valid***.
6. Start the Voicemail Pro client
7. Select **Help | About**.
8. The screen should list the **Web Services** as ***Started*** and should show the number of UMS licenses.

Configure Users for UMS

1. Start IP Office Manager.
2. Receive the configuration from the IP Office system hosting the user.
3. Select **User** and then select the required user.
4. Set their **Profile** to either ***Teleworker*** or ***Power User***.
5. Select the **Voicemail** tab. Enable **UMS Web Services**. Click **OK**.
6. Merge the configuration back to the IP Office.

Configuring Hunt Groups for UMS

Access to hunt group mailboxes using UMS is supported for Voicemail Pro 5.0+.

1. Start IP Office Manager.
2. Receive the configuration from the IP Office system hosting the hunt group.
3. Select the hunt group.
4. Click on the Voicemail tab.
5. Enable **UMS Web Services**. Click **OK**.
6. Merge the configuration back to the IP Office.

Configuring a User E-mail account

The exact method of configuration of an IMAP account depends on the IMAP client being used by the user. For example it may be required to enable some field with dummy data in order for the e-mail client to accept the account even though those settings are not used by the Voicemail Pro IMAP server.

The general details that are required are:

IMAP Account Setting	IP Office Value
Incoming Server	Voicemail Pro server IP address or domain name address.
Account Name	User name or extension number.
Password	User voicemail code.

Example: Outlook

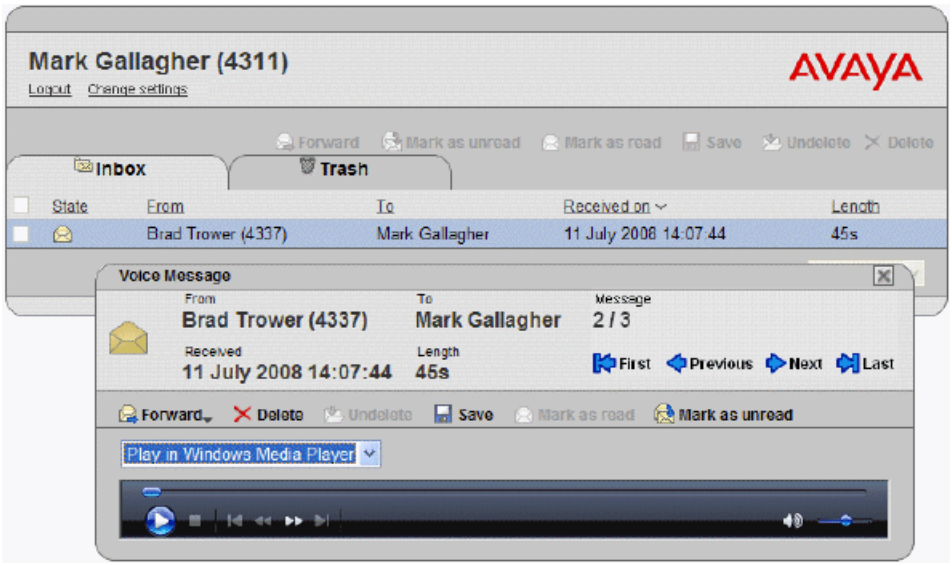
1. Select **Tools** and then **Options**.
2. Select **Mail Setup** and then click **E-mail Accounts**.
3. Select **Add a new e-mail account**.
4. Select **IMAP** as the server type.
5. In **Server Information for Incoming mail server** and **Outgoing mail server** enter the IP address or domain name address of the Voicemail Pro server computer.
6. In **Logon Information** enter the user's extension number and voicemail code as the **User Name** and **Password**.
7. Click **Next**.

Example: Outlook Express

1. Select **Tools** and then **Accounts**.
2. Select **Add** and then **Mail**.
3. Enter a descriptive name such as ***Voicemail*** and click **Next**.
4. Enter an e-mail address. This is not used but a value must be entered to move to the next screen. Click **Next**.
5. Set **My incoming mail server is a** to ***IMAP***.
6. In the **Incoming server** field enter the IP address or domain name address of the Voicemail Pro server computer.
7. Enter a value in the **Outgoing mail server** field. This is not used but a value must be entered to move to the next screen. Click **Next**.
8. For **Account Name** enter the user's extension number or name in the IP Office configuration.
9. For **Password** enter the user's Voicemail Code.
10. Click **Next** and then **Finish**.

3.4.2 Web Voicemail Installation

Voicemail Pro 4.2+ support web access to user mailboxes. Users are then able to play their messages, mark them as saved or deleted, or forward messages to another mailbox. Playback is through an IP Office extension or through the audio facilities of the computer.



Web Voicemail Installation Requirements

The Web Voicemail component is selectable as part of a custom Voicemail Pro installation. Note the pre-requisites below before doing the Web Voicemail installation.

- **IIS Web Server**
  Must be installed on the voicemail server computer before the Voicemail Pro Web Voicemail component is installed.
  - **PHP**
    Web Voicemail uses PHP. If an existing PHP is not detected, the Voicemail Pro installation will install its own PHP.
- **Licenses**
  The use of Web Voicemail and the number of users who can be configured to access it are controlled by the UMS Web Services license entered in the IP Office configuration.

UMS web services can be licensed in a number of ways by licenses added to the IP Office configuration:

- **User Licensing**
  User licensing is done as follows.
  - Users whose **Profile** is set to ***Teleworker User*** or ***Power User*** can be licensed using the **Teleworker Profile** or **Power User Profile** licenses.
  - User's whose **Profile** is set to ***Basic User*** can be licensed using the legacy **UMS Web Services** licenses.
- **Hunt Group Licensing**
  Hunt groups are licensed by **UMS Web Services** licenses.
- **Computer Name\URL**
  The computer name is used as part of its URL on the network. Set the name to something that appropriately indicates its purpose and that can be used as part of the URL for the web server within the customer's domain.
- **Remove IMS**
  Voicemail Pro UMS is not supported on systems that are using Voicemail Pro IMS. IMS must be removed before UMS can be selected for installation.

User and Browser Requirements

For users to access Web Voicemail they require a web browser that meets the following requirements:

- **Javascript Enabled Web Browser**
  Web Voicemail is tested against the following browsers. Other browser can also work if they support JavaScript and CSS.
  - **Internet Explorer V8.0** or higher
  - **Mozilla Firefox V3.0** or higher.
  - **Opera V10.0** or higher.

- **Computer Playback**
  Using browser access, you can playback messages either via an IP Office extension or through the web browser. Avaya test browser playback using the following Windows media players:
  - Windows Media Player 10.
  - Windows Media Player 11.
  - Quick Time 7.4.
  - VLC 0.8.
- **User Name and Password**
  Once enabled for UMS Web Services in the IP Office configuration, to log on using Web Voicemail, the user will need to know their **Name** and **Voicemail Code** as set in the IP Office configuration. Note that this is the **Name** and not the **Full Name.**

IIS Configuration Requirements for Windows Server 2003

If you are using the Windows 2003 Server operating system, Web Voicemail does not work if you do not enable the CGI Web service extension in IIS Manager before the installation of Web Voicemail. If you install ASP.NET from a Web download or as part of an application such as Visual Studio .NET, you also need to enable the ASP.NET Web service extension in IIS Manager.

Proceed as follows to enable the Web service extensions:

1. Click **Start** | **Administrative Tools** | **Internet Information Services (IIS) Manager**.
2. In the left pane, expand the server node and click **Web Service Extensions** in the tree.
3. In the right pane, select the Web service extension that you want to enable, and then click **Allow**.

Note: If you use the **Configure Your Server** wizard or the **Add or Remove Programs** dialog box to install ASP.NET, ASP.NET Web service extension is automatically enabled in IIS Manager.

Voicemail Pro Software Installation with Web Voicemail Component

The Web Voicemail component is installed as part of a Custom Voicemail Pro installation.

1. Verify that IIS is installed and running on the voicemail server computer. Check that it can be browsed from user computers.
   - While the server can be browsed by IP address, the URL used by users will be based on the server's computer name within the customer domain. Check that web server can be browsed from user computers using the server's computer name as part of the URL.
2. Insert the **IP Office Applications DVD**. Click on the link for **Voicemail Pro** and then double-click on **setup.exe**. The **Choose Setup Language** window opens.
3. When asked for the type of Voicemail Pro install to perform, select **Voicemail Pro (Full)**.
4. On the next screen select **Custom**.
5. In the list of components scroll down and select **Web Voicemail**. Do not change any of the other selections unless you understand the requirements for those components.
6. Follow the remainder of the installation process and reboot the voicemail server when required.

Licensing IP Office for Web Services

UMS web services can be licensed in a number of ways by licenses added to the IP Office configuration:

- **User Licensing**
  User licensing is done as follows.
  - Users whose **Profile** is set to ***Teleworker User*** or ***Power User*** can be licensed using the **Teleworker Profile** or **Power User Profile** licenses.
  - User's whose **Profile** is set to ***Basic User*** can be licensed using the legacy **UMS Web Services** licenses.
- **Hunt Group Licensing**
  Hunt groups are licensed by **UMS Web Services** licenses.

1. Start IP Office Manager.
2. Receive the configuration from the IP Office associated with the Voicemail Pro server.
3. In the **Licenses** section, add the required licenses.
4. Merge the configuration back to the IP Office and then receive the configuration again.
5. In the **Licenses** section check that the **License Status** of the licenses is now shown as ***Valid***.

6. Start the Voicemail Pro client
7. Select **Help | About**.
8. The screen should list the **Web Services** as ***Started*** and should show the number of UMS licenses.

Configure Users for UMS

1. Start IP Office Manager.
2. Receive the configuration from the IP Office system hosting the user.
3. Select  **User** and then select the required user.
4. Set their **Profile** to either ***Teleworker*** or ***Power User***.
5. Select the **Voicemail** tab. Enable **UMS Web Services**. Click **OK**.
6. Merge the configuration back to the IP Office.

Configuring Hunt Groups for UMS

Access to hunt group mailboxes using UMS is supported for Voicemail Pro 5.0+.

1. Start IP Office Manager.
2. Receive the configuration from the IP Office system hosting the hunt group.
3. Select the hunt group.
4. Click on the Voicemail tab.
5. Enable **UMS Web Services**. Click **OK**.
6. Merge the configuration back to the IP Office.

Enabling Web Voicemail

If the Exchange server and Voicemail Pro are installed on the same computer, the security settings of the Exchange server override the Voicemail Pro settings. So, if you access Web Voicemail with default settings, you may receive an error message "**HTTP Error 403.4 - Forbidden**".

Follow the below procedure to enable Web Voicemail:

1. Click **Start** | **Administrative Tools** | **Internet Information Services (IIS) Manager**.
2. In the **Connections** pane, expand the **Sites** node and click **Default Web Site** in the tree.
3. In **Features View**, double-click **SSL Settings**.
4. Clear the **Require SSL** check box.
5. Restart the IIS service.

Note: If the Exchange server and Voicemail Pro are not installed on the same computer, you do not need to enable Web Voicemail explicitly.

UMS Web Voicemail and ContactStore

It is possible to run ContactStore and UMS Web Voicemail on the same server computer. However some additional steps are required after the installation to enable browser access to both applications.

1. Install UMS Web Voicemail.
2. Install ContactStore.
3. Reboot the server.
4. Within services, stop the ***ContactStore*** service.
5. Using a web browser access a voicemail mailbox using UMS Web Voicemail.
6. Restart the ContactStore service.
7. Both application should now be accessible via web browser.

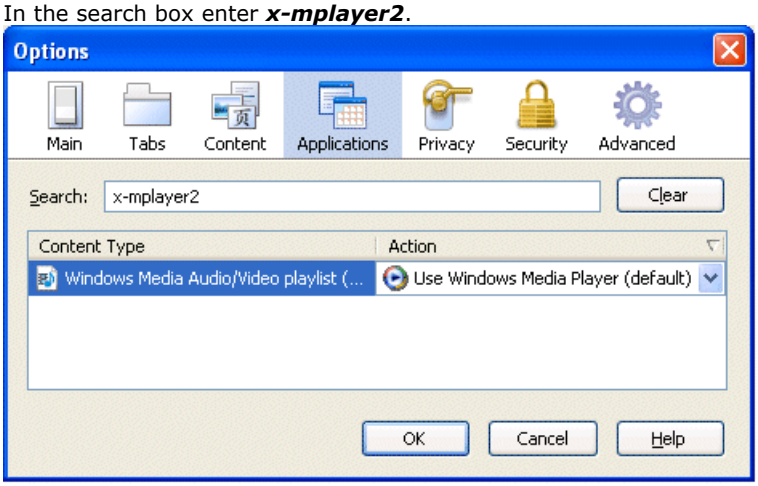
Playback Control

UMS message playback through the web browser is tested and supported with Windows Media Player. It may work with other audio playback controls also but it has not been tested.

The following methods can be used to check that the audio playback is associated with the Windows Media Player.

Firefox

1. Select **Tools** | **Options** | **Applications** or **Tools** | **Options** | **Content** | **File Types** | **Manage**.
2. In the search box enter ***x-mplayer2***.

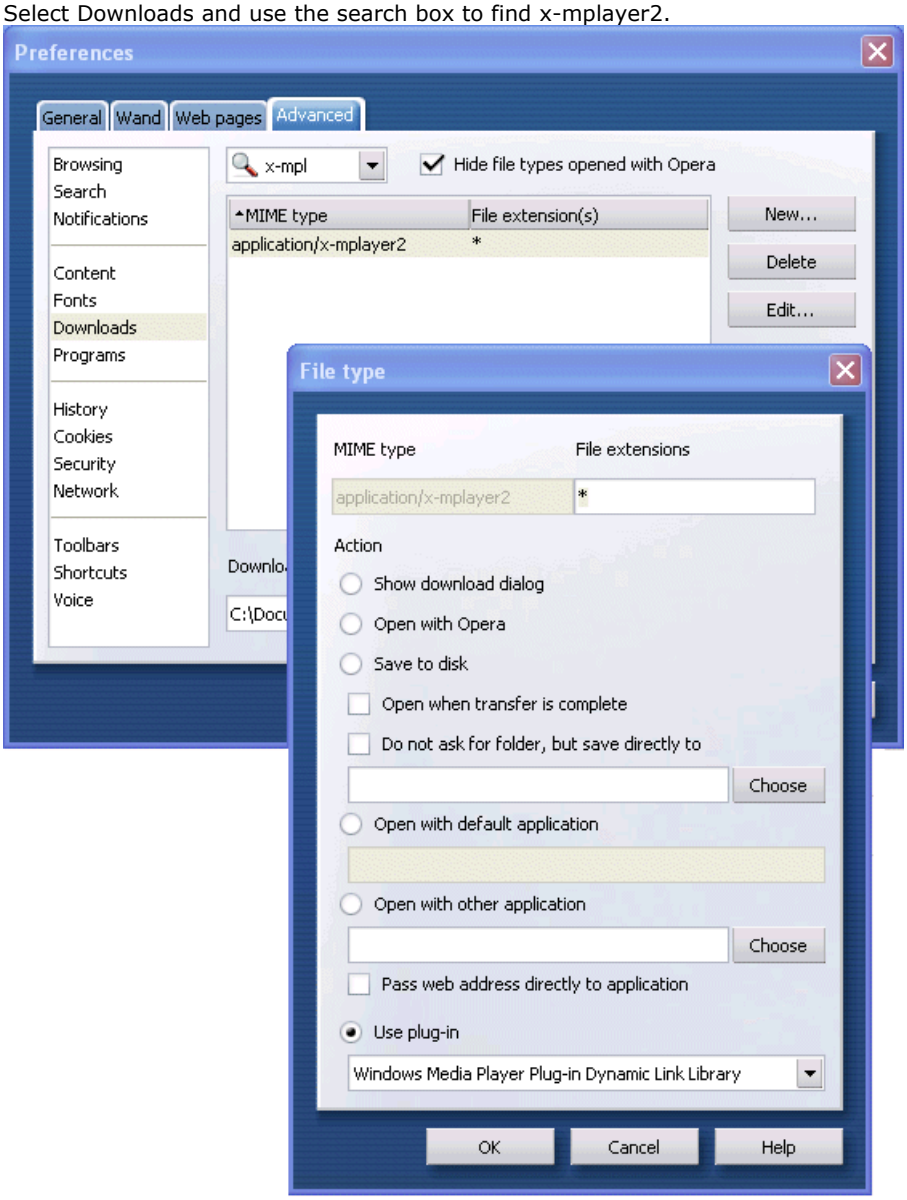


3. Check that the **Action** is set to ***Use Windows Media Player*** or ***Use Windows Media Player plug-in Dynamic Link Library***.

Opera

1. Select Tools | Preferences.

2. Select Downloads and use the search box to find x-mplayer2.

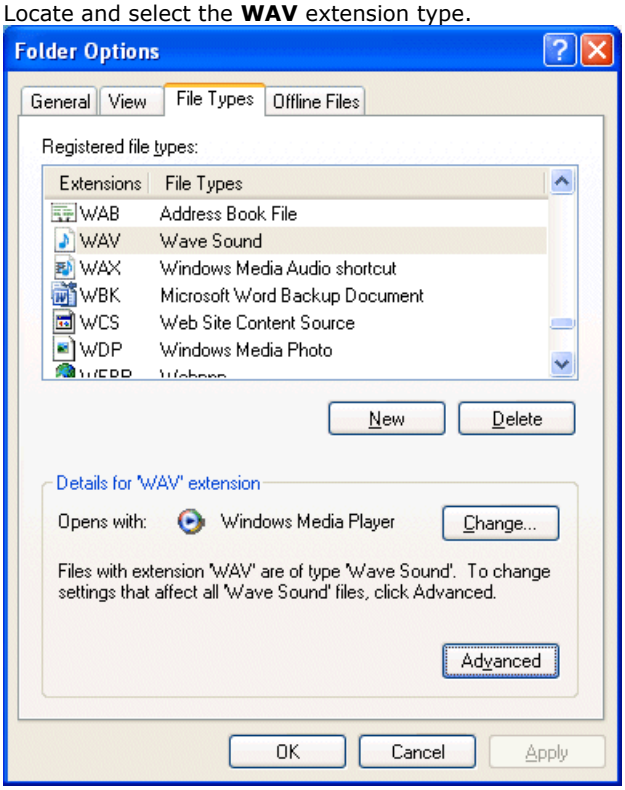


3. Check that the setting is set to **Use plug-in** and ***Windows Media Player Plug-In Dynamic Link Library***.

Internet Explorer

1. Internet Explorer uses the application associated with the wav file type for Windows.
2. Select **My Computer**.
3. Select **Tools** | **Folder Options**.
4. Select **File Types**.

5. Locate and select the **WAV** extension type.



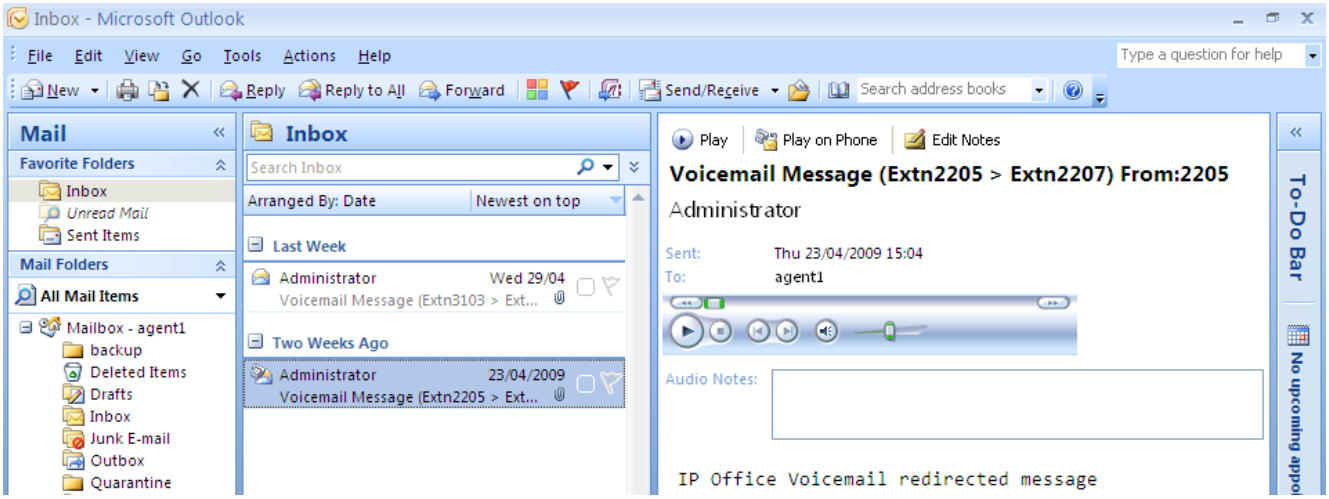
6. Check that the details show Windows Media Player as the selected application for this file type.

3.4.3 UMS Exchange Configuration

A UMS user or group can be configured to have their voicemail messages forwarded to the inbox of an Exchange server e-mail account. They can then access their voicemail messages using Outlook 2007/2010 and playback those messages on their computer. Alternatively any other mechanisms supported by Exchange Server Unified Messaging can be used. Access to the messages from an IP Office telephone is still supported, including Visual Voice.

Voicemail messages in an Exchange 2007 inbox are not visible to UMS IMAP and UMS Web Voicemail, however Exchange 2007/2010 provides its own methods to use IMAP and web browsing with Exchange mailboxes.

- **Note**
  When using an Exchange server as the message store for a user's voicemail messages, the voicemail server will deliver messages to the Exchange server on completion of the recording. However, the presentation to Outlook and back to the voicemail server for message waiting indication (MWI) and access via telephone is delayed by Exchange server processing. The delay is typically 1 or 2 minutes. The same delay also applies to changes in the message status that affect message waiting indication.



The following are the pre-requisites for UMS Exchange:

- **Exchange Server**
  - The Exchange server must be configured with the **Unified Messaging Server Role** selected.
  - A Dial Plan must be created on the Exchange server. This can be a blank dial plan but it must exist.
  - Within the Exchange server settings for each mailbox, select **Enable Unified Messaging**.

  (See Configuring Exchange Server 2007 42 for Exchange Server 2007 and Configuring Exchange Server 2010 47 for Exchange Server 2010.)
- **Voicemail Pro**
  - The Voicemail Pro server must be configured for MAPI based voicemail e-mail 58.
  - The supported MAPI applications are Exchange server (2003, 2007, and 2010) and Microsoft Outlook (all versions supported by the Exchange servers).
- **IP Office**
  - The user or hunt group must be licensed and enabled for UMS Web Services.
  - The user or hunt group's **Voicemail E-mail** mode must be set to ***Forward***.

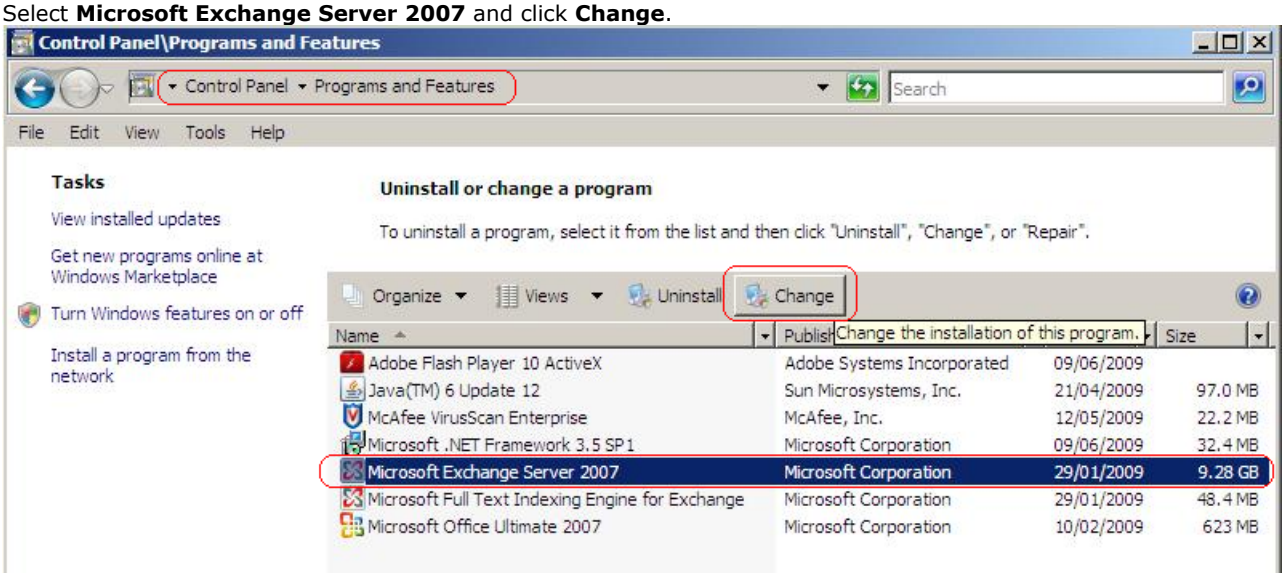
3.4.3.1 Configuring Exchange Server 2007

This is a simple overview of the minimum steps required. For full details refer to Microsoft documentation.

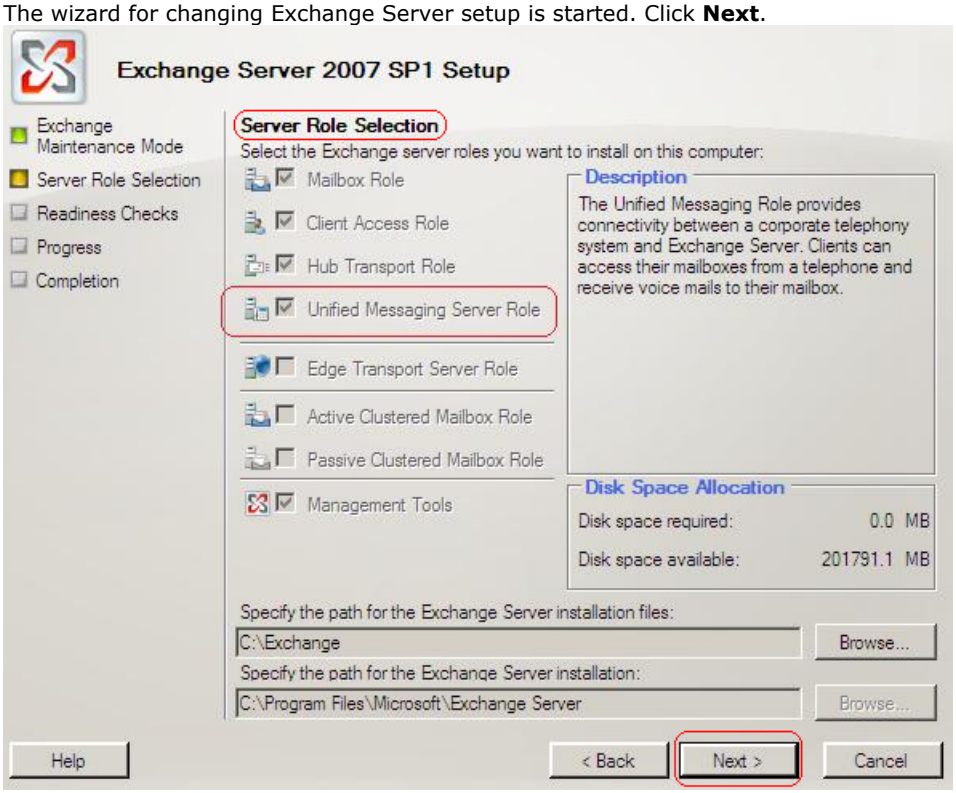
To support UMS Exchange Server 2007 operation, the Exchange Server must be configured to include the Unified Messaging Server Role.

1. In the Windows **Control Panel**, select **Program and Features**.

2. Select **Microsoft Exchange Server 2007** and click **Change**.



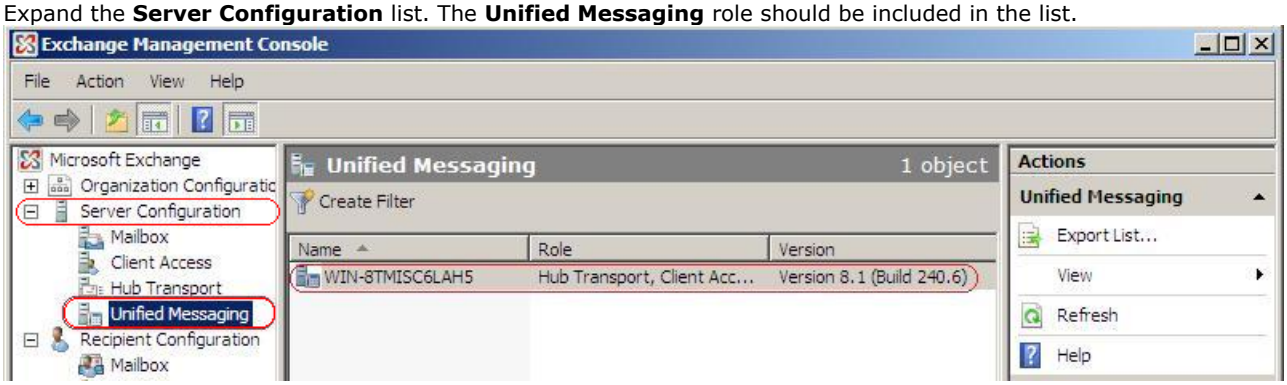
3. The wizard for changing Exchange Server setup is started. Click **Next**.



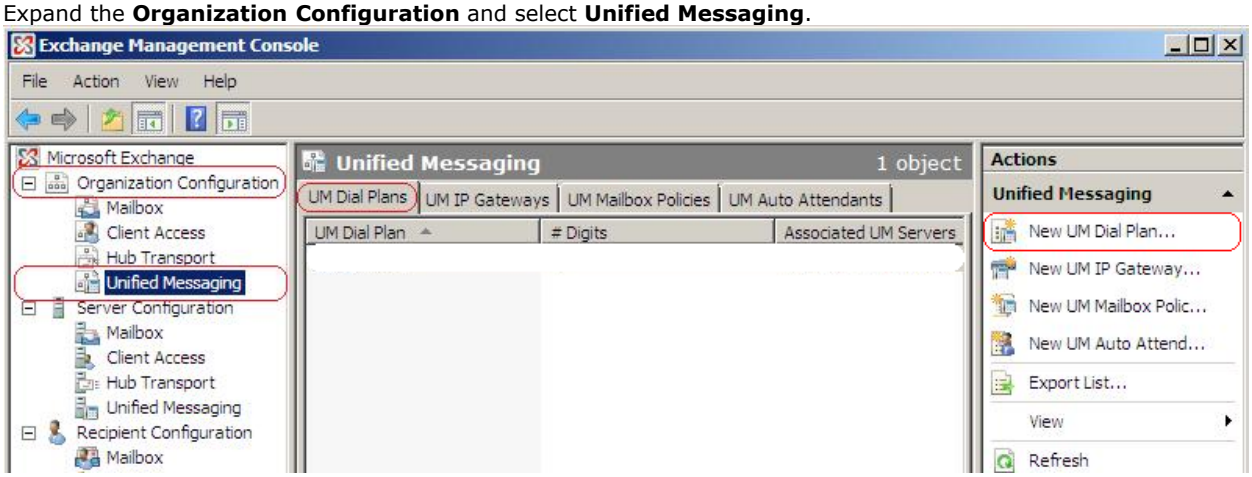
4. In the **Server Role Selection** list check that **Unified Messaging Server Role** is one of the selected roles. Click **Next** through the wizard, and then click **Finish**.

Having enabled the Unified Messaging role on the Exchange Server, configure and enable the role for the mailboxes.

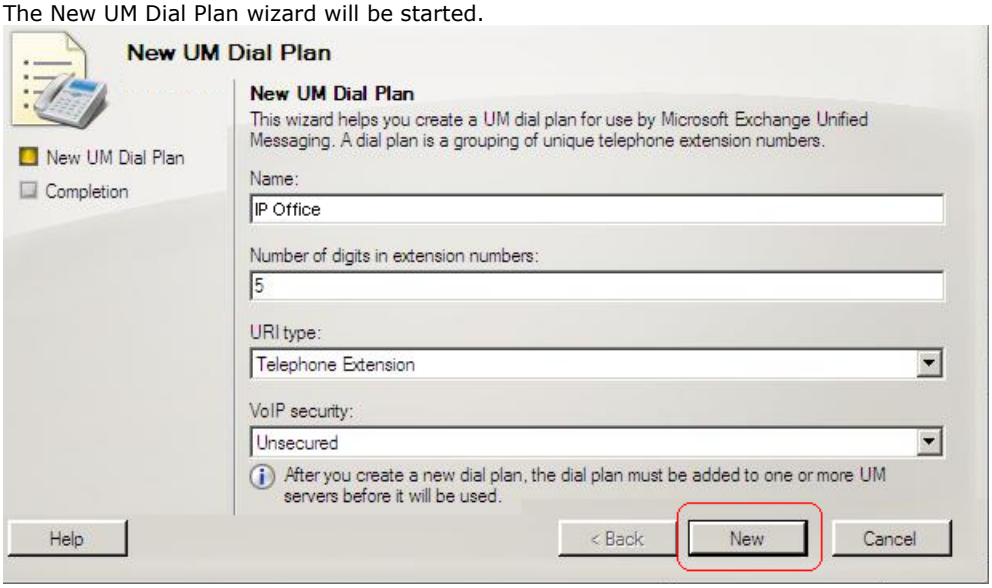
1. Select **Start | Programs | Microsoft Exchange Server 2007 | Exchange Server Management Console**.
2. Expand the **Server Configuration** list. The **Unified Messaging** role should be included in the list.



3. Create a Unified Messaging dial plan.
   a. Expand the **Organization Configuration** and select **Unified Messaging**.

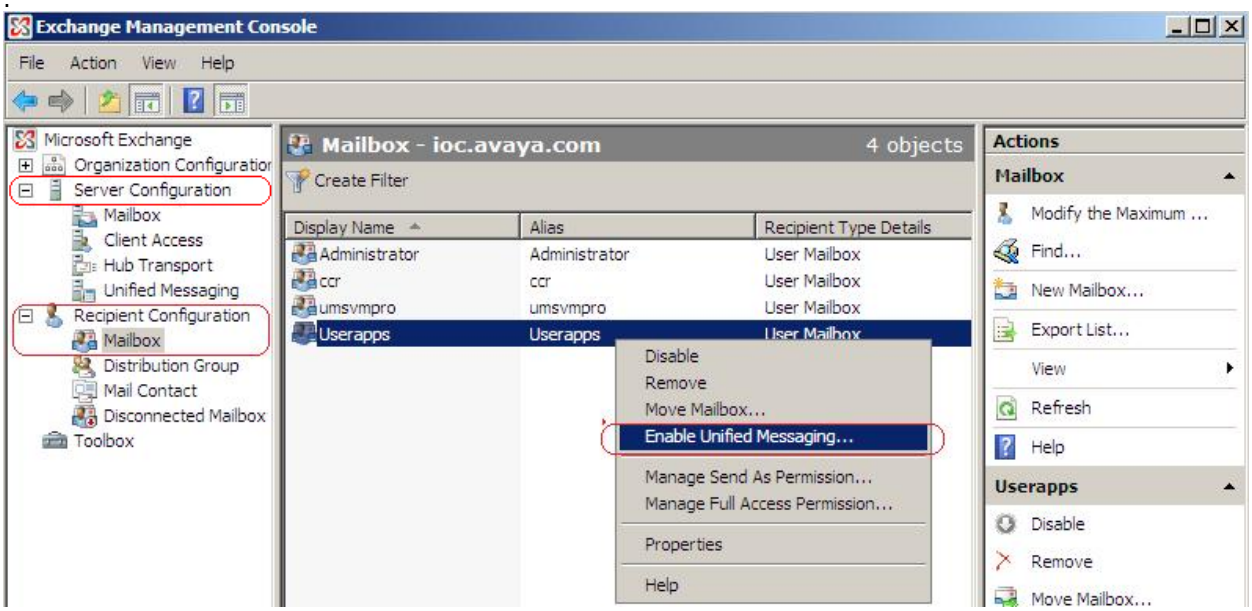


   b. Select the **UM Dial Plans** tab and in the **Actions** list, select **New UM Dial Plan**.
   c. The New UM Dial Plan wizard will be started.

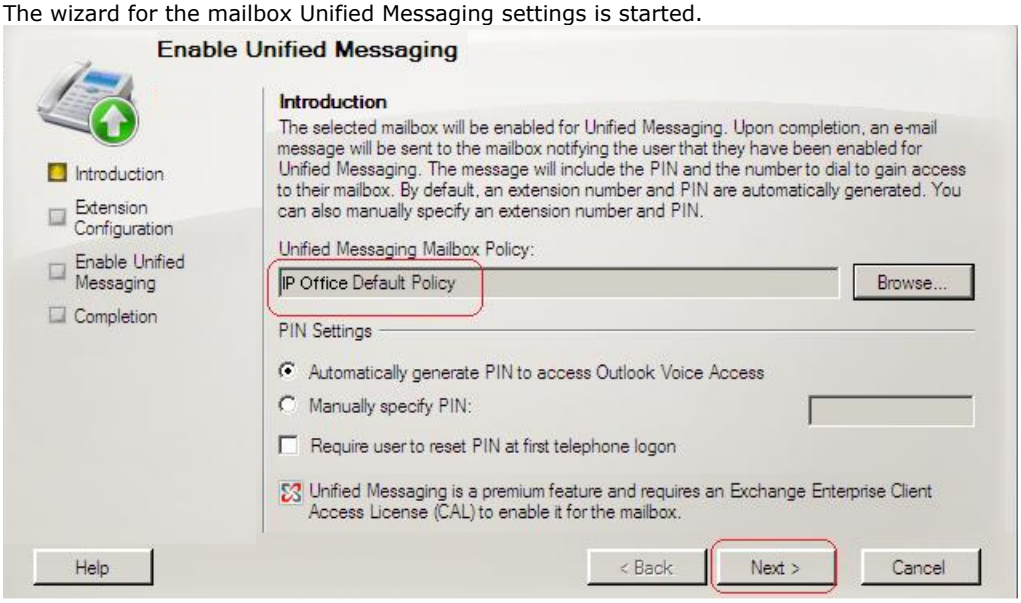


   d. Create a plan similar to the one shown above. The number of digits is not important but must be matched later in the process. The simplest option is to set it to match the length of your IP Office extension number. Click **New**, and then click **Finish**.
4. You now need to select the mailboxes that the Unified Server role is available on.
   a. Expand the **Recipient Configuration** section, and select **Mailbox**.

b. Right-click the configuration settings used for the general mailbox users, and select **Enable Unified Messaging**.

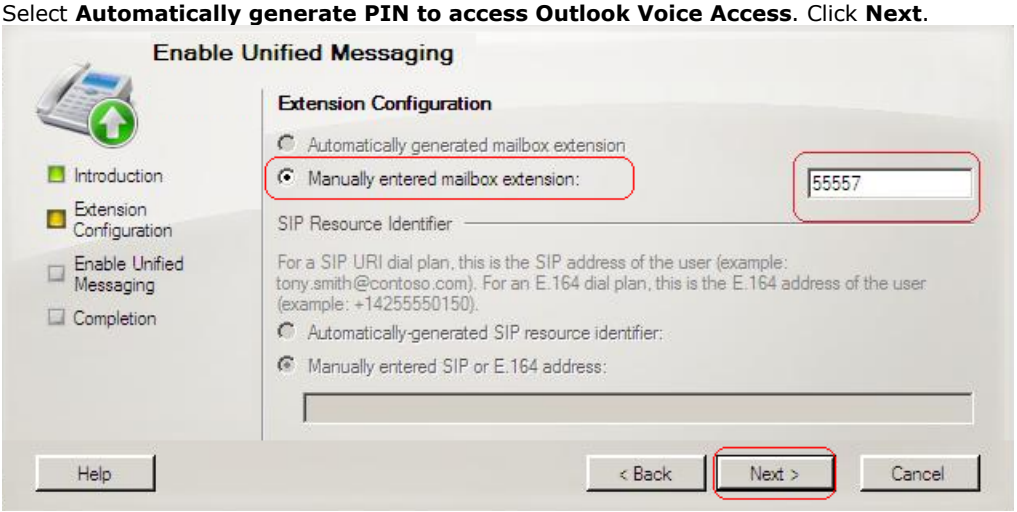


c. The wizard for the mailbox Unified Messaging settings is started.



d. For the **Unified Messaging Mailbox Policy**, click **Browse** and select a previously created dial plan.

e. Select **Automatically generate PIN to access Outlook Voice Access**. Click **Next**.



f. Select **Manually entered mailbox extension**. Enter a number that matches the number of digits that was specified in the UM Dial Plan created earlier. The number entered does not need to match an IP Office extension, only the length is important. Click **Next**.

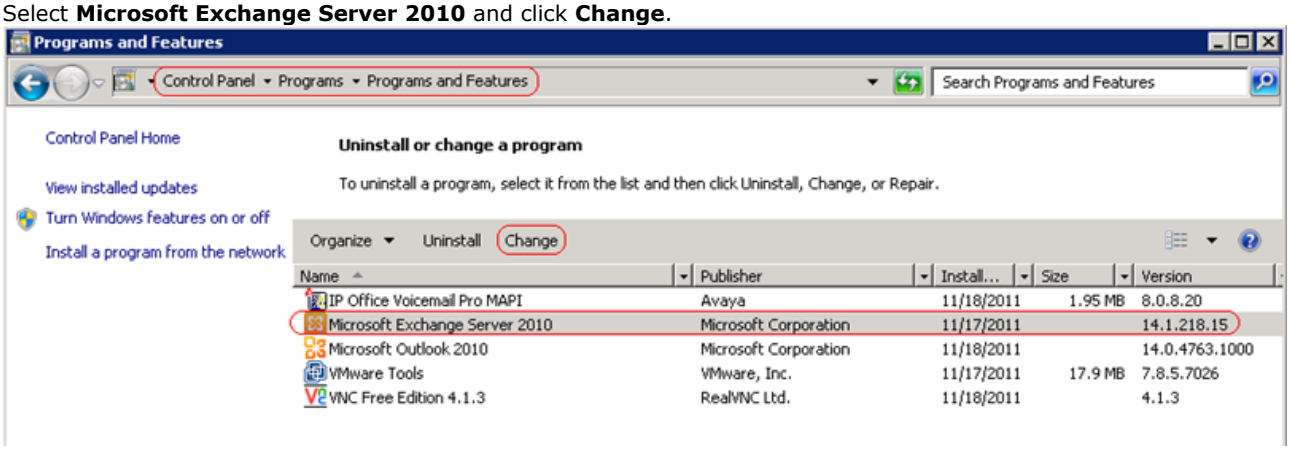
g. Select **Enable**, and then click **Finish**.

3.4.3.2 Configuring Exchange Server 2010

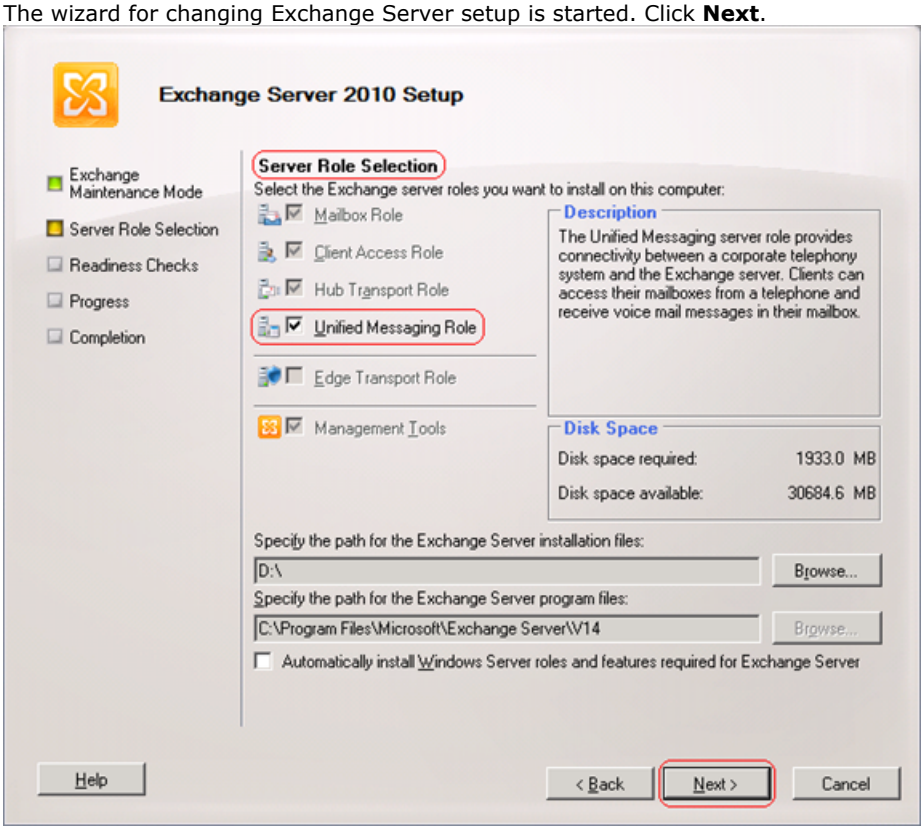
This is a simple overview of the minimum steps required. For full details refer to Microsoft documentation.

To support UMS Exchange Server 2010 operation, the Exchange Server must be configured to include the Unified Messaging Server Role.

1. In the Windows **Control Panel**, select **Programs | Program and Features**.
2. Select **Microsoft Exchange Server 2010** and click **Change**.



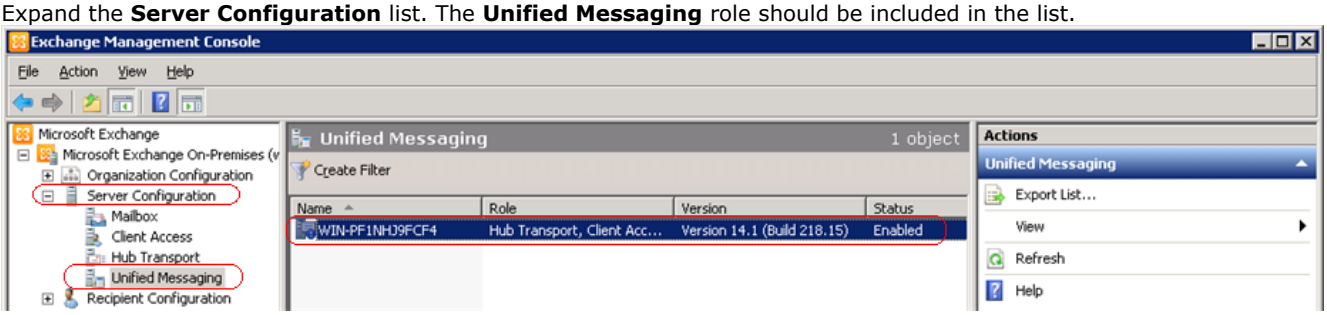
3. The wizard for changing Exchange Server setup is started. Click **Next**.



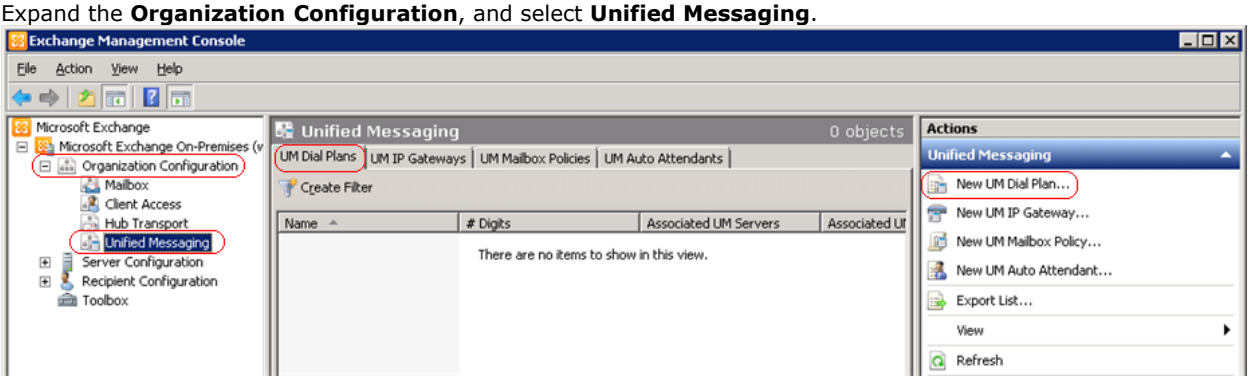
4. In the **Server Role Selection** list check that **Unified Messaging Server Role** is one of the selected roles. Click **Next** through the wizard, and then click **Finish**.

Having enabled the Unified Messaging role on the Exchange Server, configure and enable the role for the mailboxes.

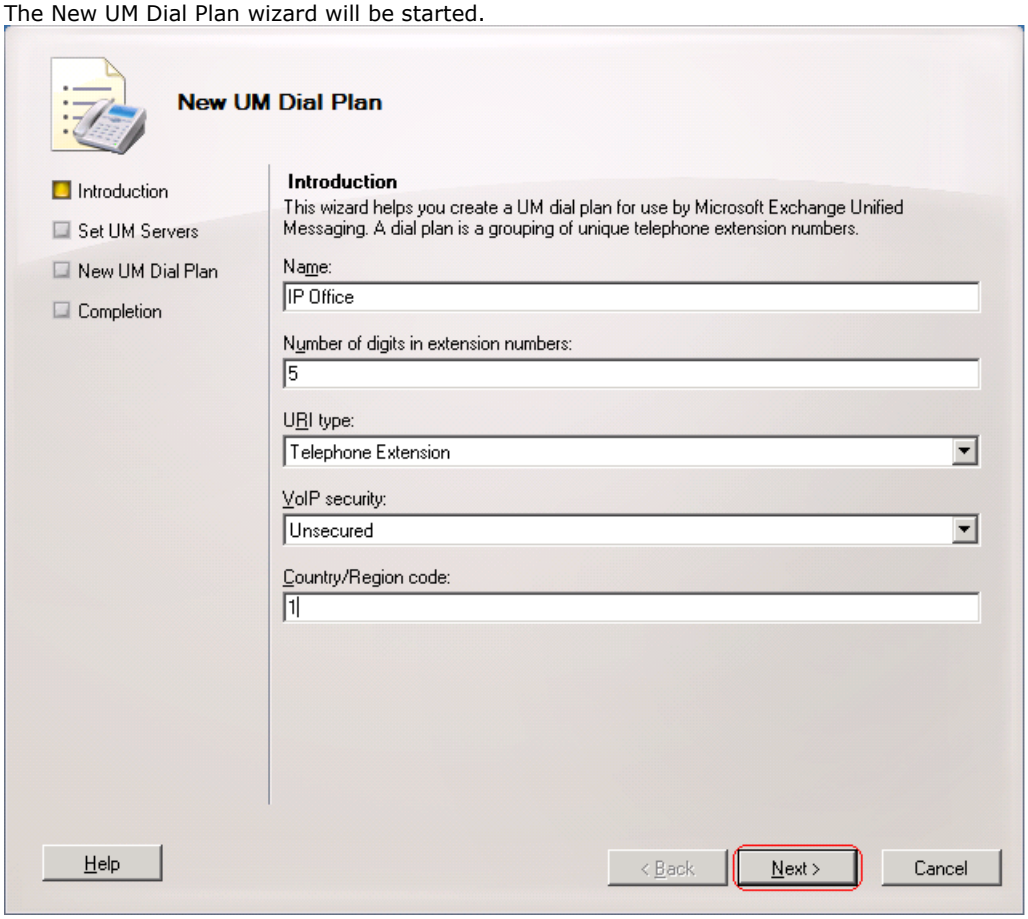
1. Select **Start | All Programs | Microsoft Exchange Server 2010 | Exchange Management Console**.
2. Expand the **Server Configuration** list. The **Unified Messaging** role should be included in the list.



3. Create a Unified Messaging dial plan.
   a. Expand the **Organization Configuration**, and select **Unified Messaging**.



   b. Select the **UM Dial Plans** tab and in the **Actions** list, select **New UM Dial Plan**.
   c. The New UM Dial Plan wizard will be started.



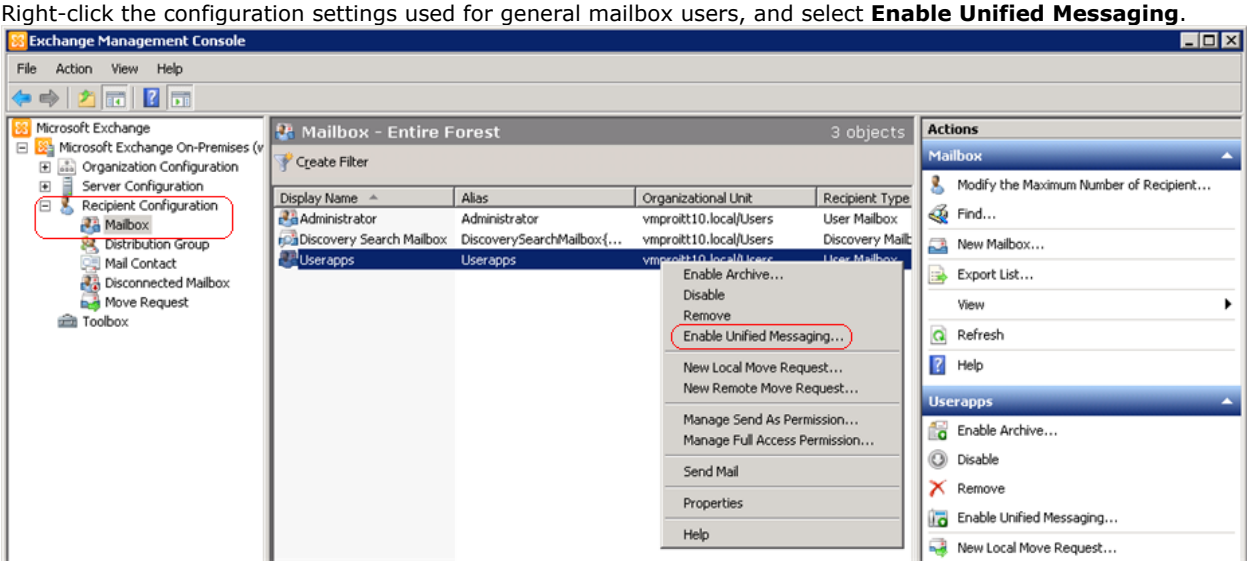
   d. Create a plan similar to the one shown above. The number of digits is not important but must be matched later in the process. The simplest option is to set it to match the length of your IP Office extension number. Click **Next**.
   e. On the **Set UM Servers** screen, click **Add** to select the UM server that you want to add to the UM dial plan. Click **Next**.

f. Click **New**, and then click **Finish**.

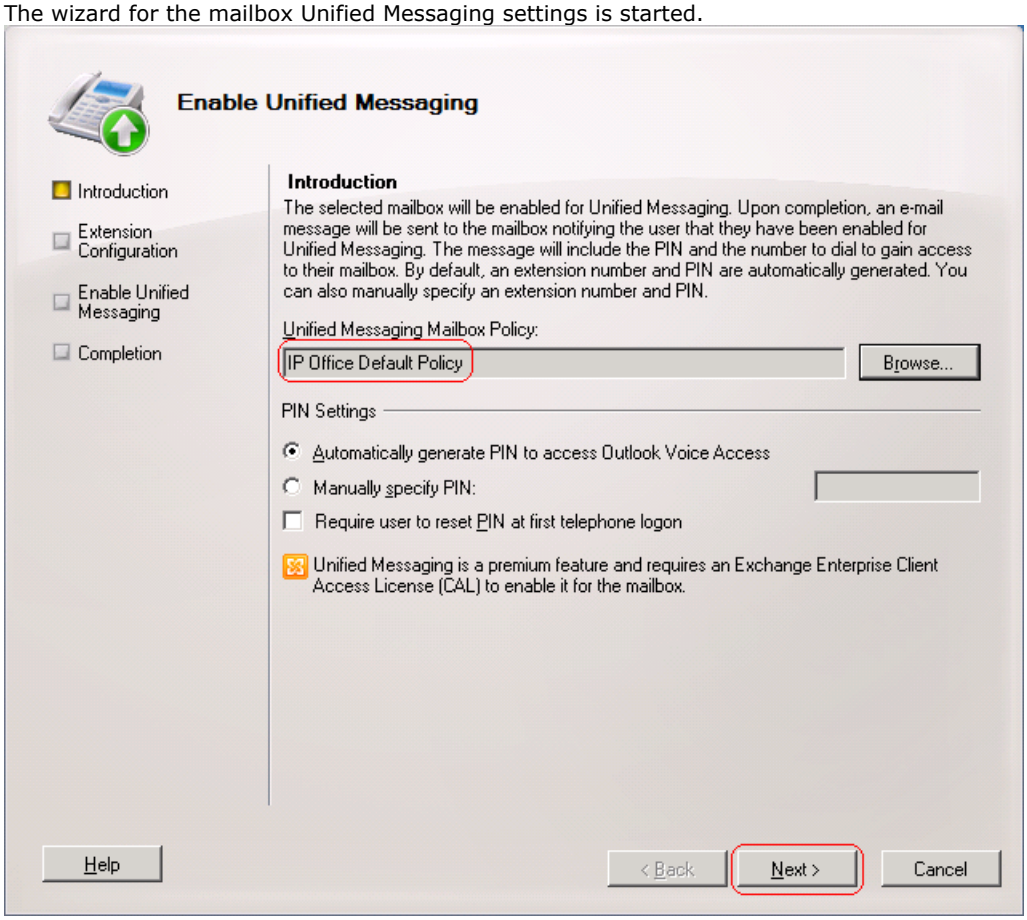
4. You now need to select the mailboxes that the Unified Server role is available on.

a. Expand the **Recipient Configuration** section, and select **Mailbox**.

b. Right-click the configuration settings used for general mailbox users, and select **Enable Unified Messaging**.

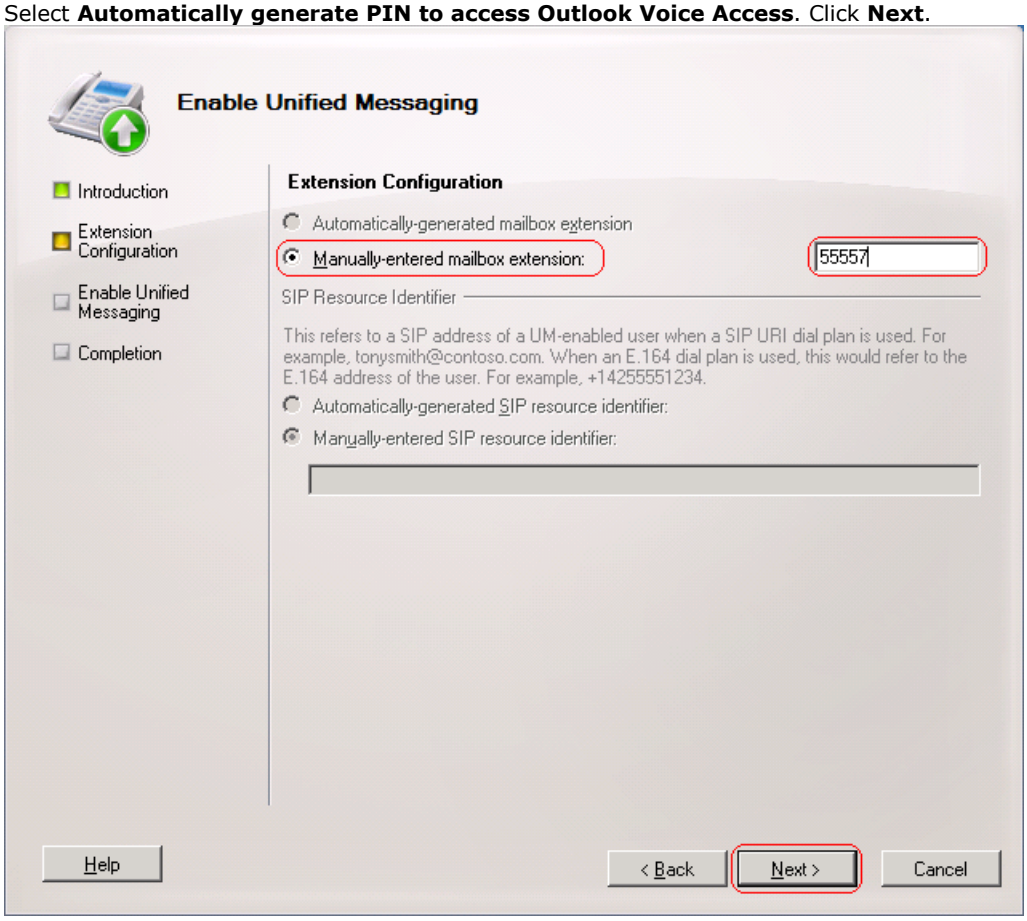


c. The wizard for the mailbox Unified Messaging settings is started.



d. For the **Unified Messaging Mailbox Policy**, click **Browse** and select a previously created dial plan.

e. Select **Automatically generate PIN to access Outlook Voice Access**. Click **Next**.



f. Select **Manually entered mailbox extension**. Enter a number that matches the number of digits that was specified in the UM Dial Plan created earlier. The actual number entered does not need to match an IP Office extension, only the length is important. Click **Next**.

g. Select **Enable**, and then click **Finish**.

3.4.3.3 Configuring Registry Settings

By default, UMS Exchange supports only up to 166 users. In order to support more number of users, proceed as follows:

1. On the computer hosting the Exchange server, open **Registry Editor**.
2. Under *HKEY_LOCAL_MACHINE/SYSTEM/CurrentControlSet/Services/MSExchangeIS/ParametersSystem*, add a new key *MaxObjsPerMapiSession.*
3. Under the new key, create a new DWORD Value *objtMessageView*, and set the value to thrice the number of required users. For example, to support 500 users, set the value to 1500.
4. Restart the Microsoft Exchange Information Store service.

3.4.3.4 Assigning Permission to Users for MAPI

Use the steps in this section to assign permissions to user accounts to run the MAPI service. To assign permissions, complete the following procedures:

1. Assign Send As permissions 51.
2. Assign additional permissions 51.

Assigning additional permissions

Procedures for assigning permissions are different for the different versions of Exchange Server. Select the procedure that applies to your environment.

- Assigning permissions on Exchange 2003 52
- Assigning permissions on Exchange 2007 53
- Assigning permissions on Exchange 2010 54

3.4.3.4.1 Assigning Send As Permissions

To assign security permissions to the user under whose account MAPI service is to be executed:

1. Log on to the Active Directory server using an account that has Domain Administrator privileges.
2. Click **Start** | **Administrative Tools** | **Active Directory Users and Computers**.
3. From the **View** drop-down menu, select **Advanced Features**.
4. In the left pane of the **Active Directory Users and Computers** dialog box, right-click the domain and select **Properties**.
5. In the **Properties** dialog box, select the **Security** tab.
6. Click **Advanced**.
7. In the **Advanced Security Settings** dialog box, click **Add**.
8. In the **Select Users, Computers, Service Account**, **or Group** dialog box, add the user's account.
9. Click **OK**.
10. In the **Apply to** field, select **Descendant User objects**.
11. In the **Permissions** box, select **Send As** permissions.
12. Click **OK** to close the **Permission Entry** dialog box.
13. Click **OK** to close the **Advanced Security Settings** dialog box.
14. Click **OK** to close the **Properties** dialog box.

The system periodically applies a security descriptor to the following groups, which results in the **Send As** permissions being removed from these groups.

- Administrators
- Domain Administrators

To prevent the **Send As** permissions from being removed:

1. Click **Start** > **Run**, type **cmd**, and click **OK**.
   Note: You must be a member of the domain administrator group.
2. In the command window, enter the following:

   ```
   dsacls "cn=adminsdholder,cn=system,dc=<xxx>,dc=<yyy>" /G "\<MM Security Group>:CA;Send As"
   ```

   where,

   - `dc=<xxx>,dc=<yyy>` is the customer's fully qualified domain name (for example, `dc=Avaya,dc=com`).
   - `<MAPI>` is the name of the service permissions group.

It will take at least an hour for the security permissions to replicate to the user's account.

If the user is on Exchange 2003 server, proceed as follows:

1. Modify the advanced security settings for Mailbox Store.
2. Edit the registry to display the Security tab.
   Note: To edit the registry, you must be a member of the domain administrator group.
3. Add the additional permissions to the user account.

Modifying Advanced Security Settings for Mailbox Store

1. Log on to the Active Directory server using an account that has privileges to edit permissions (such as administrator).
2. Click **Start** | **All Programs** | **Microsoft Exchange** | **System Manager**.
3. In the left pane of the **Exchange System Manager** window, expand the **Servers** node in the tree.
4. Expand the server node in the list, and then expand the **First Storage Group** node.
5. Right-click **Mailbox Store** and select **Properties**.
6. In the **Security** tab of the **Properties** dialog box, click **Advanced**.
7. Under the **Permissions** tab of the **Advanced Security Settings** window, change all the **Permission Entries** to **Allow**.
8. Restart the computer.

Editing the registry

If you are using Exchange System Manager or Active Directory Sites and Services, the Security tab for the Exchange organization container and a few sub-containers are not visible. To enable the Security tab at all levels within the Microsoft Exchange container, you can update the registry.

1. Log on as the Microsoft Exchange administrator.
2. Click **Start** > **Run**.
3. In the **Run** dialog box, in the **Open** field, type **regedit**.
4. Press **Enter**.
5. In the **Registry Editor** dialog box, locate the following key:
   "HKEY_CURRENT_USER\Software\Microsoft\Exchange\ExAdmin"
6. Right-click **ExAdmin** and select **New** > **DWORD Value**.
7. Enter the following value name: **ShowSecurityPage**.
8. Double-click the **ShowSecurityPage** value.
9. In the **Edit DWORD Value** dialog box, set the Value data to **1**.
10. Click **OK**.

Adding permissions on Exchange 2003

Proceed as follows to add the additional permissions to the user's account:

1. Log on to the Active Directory server using an account that has privileges to assign permissions to accounts (such as administrator).
2. Click **Start** | **Administrative Tools** | **Active Directory Sites and Services**.
3. In the left pane, select **Active Directory Sites and Services**.
4. From the **View** drop-down menu, select **Show Services Node**.
5. In the left pane, expand **Services**, expand **Microsoft Exchange**, and then locate the appropriate Exchange Organization object that MAPI will connect to.
6. Right-click and select **Properties**.
7. In the **Properties** dialog box, click the **Security** tab.
   Note: This tab is visible only if you have edited the registry (see Editing the registry 52).
8. Click **Add**.
9. In the **Select Users, Computers, Service Accounts, or Groups** dialog box, add the user's account.
10. Click **OK**.
11. Under **Permissions**, select the permissions that you want to assign to the user's account.

- Read
- Execute
- Read permissions
- Create children
- List contents
- Read properties
- Write properties
- Administer information store
- Create named properties in the information store
- View information store status
- Receive As
- Send As

12. Click **Apply**.
13. Click **OK**.
14. Close the **Active Directory Sites and Services** dialog box.
15. Wait for the directory cache to expire.

3.4.3.4.3 Assigning Permissions on Exchange 2007

If user account is on Exchange 2007 server, proceed as follows to assign additional permissions to the user account:

1. Verify that the user to be added is a member of the Exchange recipient Administrator group.
2. Log on to the Active Directory server using an account that has privileges to assign permissions to accounts (such as administrator).
3. Click **Start** | **Administrative Tools** | **Active Directory Sites and Services**.
4. In the left pane, select **Active Directory Sites and Services**.
5. From the **View** pull-down menu, select **Show Services Node**.
6. In the left pane, expand **Services**, expand **Microsoft Exchange**, and then locate the appropriate Exchange Organization.
7. Right-click it and select **Properties**.
8. In the Properties window, click the **Security** tab.
   The Security tab may not be visible in an environment with both Exchange 2003 and Exchange 2007 mail servers. To enable the Security tab, see Editing the registry 52.
9. Click **Add**.
10. In the **Select Users, Computers, Service Accounts, or Groups** window, add the user's account.
11. Click **OK**.
12. Under **Permissions for the group**, select **Read** and click **Apply**.
13. Click **Advanced**.
14. In the **Advanced Security Settings** window, on the **Permissions** tab, select the check box at the bottom of the window. This will apply the permissions inherited from the parent to this object and its child objects.
15. Click **Add** and add the user's account.
16. Click **OK**.
17. In the **Apply to** field, select **This object and all descendant objects**.
18. Verify that the following box is **not selected**: **Apply these permissions to objects and/or containers within this container only**.
19. In the **Permissions** field, select the required permissions.
    - List contents
    - Read all properties
    - Write all properties
    - Read permissions
    - Create all child objects
    - Administer information store
    - Create named properties in the information store
    - Receive As

- Send As
- View information store status

For a mixed environment of Exchange 2003 and Exchange 2007 mail servers, also select the following permissions, which are only displayed for Exchange 2007 in the mixed environment:

- Read
- Execute

20. Click **OK**.

3.4.3.4.4 Assigning Permissions on Exchange 2010

If user account is on Exchange 2010 server, proceed as follows to assign additional permissions to the user account:

1. Verify that the user to be added is a member of the Exchange recipient Administrator group.
2. Log on to the Active Directory server using an account that has privileges to assign permissions to accounts (such as administrator).
3. Click **Start** | **Administrative Tools** | **Active Directory Sites and Services**.
4. In the left pane, select **Active Directory Sites and Services**.
5. From the **View** pull-down menu, select **Show Services Node**.
6. In the left pane, expand **Services**, expand **Microsoft Exchange**, right-click the appropriate Exchange Organization, and select **Properties**.
7. In the **Properties** window, click the **Security** tab.
   The **Security** tab may not be visible in an environment with both Exchange 2003 and Exchange 2010 mail servers. To enable the Security tab, see Editing the registry 52.
8. Click **Add**.
9. In the **Select Users, Computers, Service Accounts, or Groups** window, add the user's account.
10. Click **OK**.
11. Under **Permissions for the group**, select **Read** and click **Apply**.
12. Click **Advanced**.
13. In the **Advanced Security Settings** window, on the **Permissions** tab, select the check box at the bottom of the window. This will apply the permissions inherited from the parent to this object and its child objects.
14. Click **Add** and add the user's account.
15. Click **OK**.
16. In the **Apply to** field, select **This object and all descendant objects**.
17. Verify that the following box is not selected: **Apply these permissions to objects and/or containers within this container only**.
18. In the **Permissions** field, select the required permissions.
    - List contents
    - Read all properties
    - Write all properties
    - Read permissions
    - Create all child objects
    - Administer information store
    - Create named properties in the information store
    - Receive As
    - Send As
    - View information store status

For a mixed environment of Exchange 2003 and Exchange 2010 mail servers, also select the following permissions, which are only displayed for Exchange 2010 in the mixed environment:

- Read
- Execute

19. Click **OK**.

3.5 Voicemail Email

Voicemail E-mail features of the voicemail server provide a number of e-mail functions:

- **Forward a Message to E-mail**
  If the voicemail server is set to IP Office mailbox mode, mailbox users are able to manually forward an voicemail message to their e-mail.
- **Automatic New Voicemail Messages**
  For all mailbox modes, users can use voicemail e-mail to automatically have a message sent to their e-mail whenever they receive a new voicemail message. The e-mail can be a simple alert or it can include a copy of the voicemail as an attachment.
- **eMail Action**
  With customized call flows, an **eMail** action can be used to send a caller's recorded voicemail message to a specified e-mail address.
- **UMS Exchange**
  In conjunction with Exchange server and Microsoft Outlook, users are able to use their Outlook inbox as their mailbox for voicemail messages. If the Exchange server is 2007/2010 and the mailbox is configured for Unified Messaging, the users will also have the ability to play the message within Outlook, if using Microsoft Outlook 2007/2010.

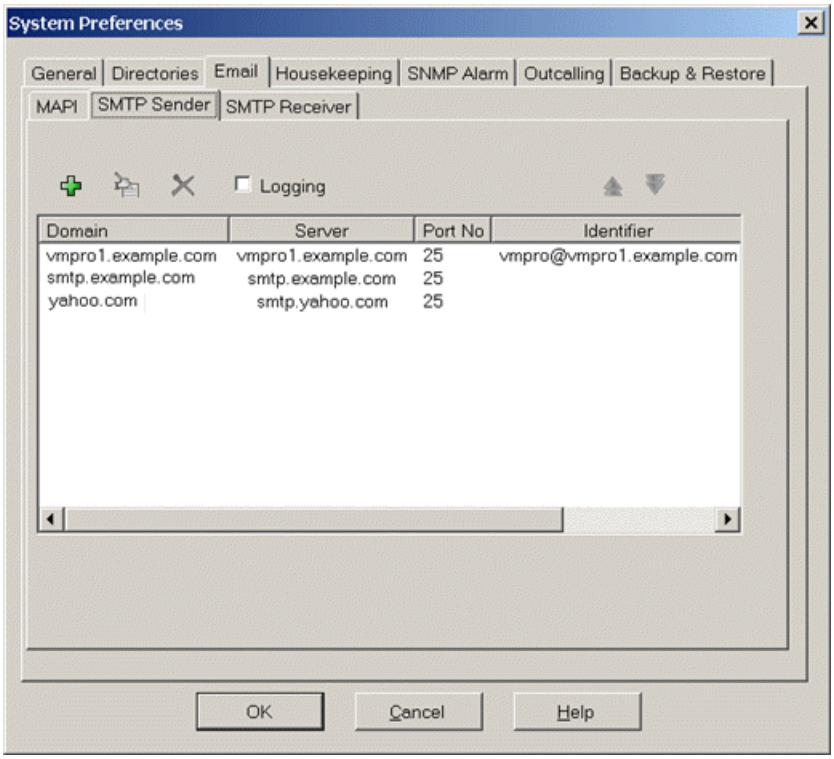
Voicemail E-mail features require the voicemail server to be configured for access to either an SMTP e-mail server or to a MAPI e-mail server via a MAPI enabled e-mail client program on the voicemail server computer.

- **SMTP Installation** 56
  This is an e-mail standard supported by most e-mail servers. It is the default e-mail mode for the voicemail server.
- **MAPI Installation**
  MAPI requires a MAPI compliant e-mail client program to be installed on the Voicemail Pro server. Supported MAPI clients are Outlook 2000, 2002, 2003, 2007. It also requires the Voicemail Pro service to be run using a user account that is able to send e-mails via that MAPI client.
  - The exact method of integration between the voicemail server and the MAPI e-mail client depends on whether the voicemail server is part of a work group or a domain. This guide contains examples for both approaches.
  - The MAPI process described in this guide is based on Microsoft Windows 2000 Professional with Microsoft Outlook 2000 and Microsoft Outlook Express 5.5. Steps may differ depending on the version of Windows and e-mail client used.
    Note:
    1. Starting with Exchange Server 2007, the MAPI is not shipped with the Exchange server but can be installed separately. For details, see http://support.microsoft.com/kb/945835.
    2. Microsoft does not support installing Exchange Server components and Microsoft Outlook on the same computer. For details, see http://support.microsoft.com/kb/266418.

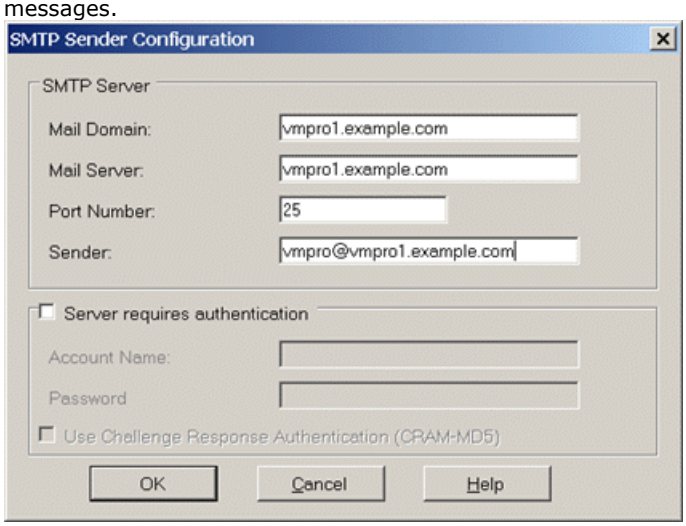
3.5.1 SMTP Setup

To configure the server SMTP e-mail settings:

1. Start the Voicemail Pro Client.
2. Click **Preferences** and select **General**.
3. Click the **Email** tab.
4. Verify that there are no settings on the **MAPI** sub tab.
5. Enter the SMTP settings on the **SMTP Sender** 101 sub tab. These are the settings that the voicemail server uses for sending SMTP e-mails.



- **Logging**
  If selected, SMTP logging 132 by the server is enabled.
- **Servers**
  This section is used to enter details of the SMTP server or servers to which the voicemail server sends its messages.



To add a server, click on the . icon. To edit the server, click on the icon. To delete a server entry, click on .

- **Mail Domain**
  This field is used differently depending on whether it is the first entry in the list or not:
  - **For the first server entry in the list:**
    This is the default outgoing e-mail settings. It also sets the mail destination domain on which the voicemail server filters incoming messages (see below) and so is repeated on the **SMTP Receiver** tab.
    - **Messaging Between Voicemail Servers**
      For messaging between voicemail servers, the first entry in the SMTP Sender list must be the one configured and used. Each server uses the SMTP server service on the same server computer as the voicemail service. For example a Windows based servers uses the SMTP e-mail provided by the IIS on the same server. The voicemail service also uses the domain set to filter incoming SMTP mails received by the SMTP server. For this to work, the domain entered should be the fully qualified name of the server on which the voicemail server is running, for example ***vmpro1.example.com***. Any incoming messages where the recipient mail domain is not exactly the same as the specified domain are ignored. The recipient can either by ***vmsyncmaster***, ***vmsyncslave*** or the name or extension of a mailbox on the Voicemail Pro server, for example ***Extn201@vmprocentral.example.com*** or ***201@vmprocentral.example.com***.
  - **For subsequent entries:**
    The domain specifies that these settings should be used for e-mails sent to the matching domain. The entry must be a fully qualified name resolvable by DNS or an IP address.
- **Server**
  This specifies the IP address or fully qualified domain name of the SMTP server to which messages are sent.
  - **For the first server entry in the list:**
    Where messaging between voicemail servers is being used (central, backup and or distributed servers), the first entry is used and will match the domain set above.
  - **For subsequent entries:**
    It will be the address of the e-mail server that will handle e-mails for recipients other than another voicemail server on the network.
- **Port Number**
  This is port to which messages are sent, usually 25.
- **Sender** (**Identifier**)
  Note that some servers will only accept e-mails from a specific sender or sender domain. If left blank, the voicemail server will insert a sender using either the e-mail address set for the voicemail mailbox user if set or otherwise using the best matching name it can resolve from the IP Office.
- **Server Requires Authentication**
  This check box indicates whether the connection to send SMTP messages to the mail server requires authentication with that server. The authentication will typically be to the name and password of a mailbox account configured on that server.
  - **Account Name**
    Sets the name to use for authentication.
  - **Password**
    Set the password to use for authentication.
  - **User Challenge Response Authentication (Cram MD5)**
    If this check box is selected, the name and password are sent using Cram MD5.

6. Click **OK**.
7. Click **Save and Make Live**.

3.5.2 MAPI Setup

3.5.2.1 Domain Member

Before you start to install the Voicemail Pro software, you **must**:

1. Create a Voicemail Domain Account 58.
2. Configure Outlook for Internet Mail 64.

You are then ready to install Voicemail Pro for MAPI Voicemail E-mail as a Domain Member. This involves the following key stages:

1. Install the Voicemail Pro Software 65.
2. Switch Voicemail Pro to MAPI 60.

3.5.2.1.1 Creating a Voicemail Domain Account

1. Make sure that the computer that is running the Voicemail server is a member of the domain. To join the domain you will need access to a log account with administrative permissions on the domain as well as the server computer, consult the domain administrator.
2. On the Exchange server:
   - Create an account called **Voicemail** on the domain and an associated mailbox.
   - Provide a secure password.
   - Check the **User Cannot Change Password** and **Password Never Expires** boxes.
3. Log on to the voicemail server computer using a domain administrator account.
4. Click **Start** | **Administrative Tools** | **Computer Management**.
5. In the left pane, expand **Local Users and Groups**, and click **Groups**.
6. Double-click **Administrators**, and click **Add**.
7. Click **Locations** and select the domain name in the list.
8. In the **Enter the object names to select** field, type *Voicemail* and click **Check Names**.
9. Select **Voicemail** in the list and click **OK** followed by **OK**.

3.5.2.1.2 Configuring Outlook for VoiceMail Email

To configure Outlook on your system, perform the following steps:

1. On the desktop, right-click the Outlook icon and select **Properties**.
2. On the **General** tab, select **Add**.
   a. Select **Microsoft Exchange Server**.
   b. Click **Next**.
   c. In the **Server** field, enter the name of the Exchange server.
   d. In the **Mailbox** field, enter ***Voicemail***.
   e. Click **Next**.
   f. When you are asked if you travel with this computer, select ***No***.
   g. Click **Next**.
   h. Click **Finish**.
3. Highlight the **MS Exchange Settings** and click **Properties**.
   a. Highlight **Microsoft Exchange Server** and click **Properties**.
   b. Click **Check name**.
   c. If the name is resolved, select **Apply**.
   d. Click **OK**, **OK**, and **Close** to shut the mail settings.
4. Do not continue until the name has been resolved correctly with the Exchange server. If the name is not resolved, check the account details with the Exchange Administrator.
5. Open **Outlook** and select **Yes** to register Outlook as the default e-mail application.
   a. Select **Tools > Options**.
   b. Click the **Preferences** tab.
   c. Click **E-mail Options**.
   d. Uncheck **Save copies of messages in Sent Items folder**.
   - You might want this option selected during initial setup to aid troubleshooting. However due to the size of wav file message attachments you should uncheck it after installation testing is completed.
6. Log on to the computer running the Voicemail Pro Server using the voicemail account.
7. From Outlook, send a message direct to an extension user.
8. If this message is received correctly, you can continue installing the Voicemail Pro software. See Installing the Voicemail Pro Software 65.

3.5.2.1.3 Installing the VoiceMail Pro Software

To install Voicemail Pro software, perform the following steps:

1. Log off and log on using the Voicemail account and password.
2. Install the required Voicemail Pro software.
3. When the system prompts for a User Name and Password for the Voicemail Pro service, enter the Voicemail account details.
4. Restart the server and log on using the Voicemail account.
5. When SMTP e-mail details are requested, enter no values and ignore the error message following the SMTP check.
6. Start the Voicemail Pro Service 28.
7. Check that the basic voicemail services start and operate correctly.

3.5.2.1.4 Adding Port to Windows Firewall

Voicemail Pro installed on Linux uses MAPI service as a proxy to the Microsoft Exchange server. Voicemail Pro will send commands to the MAPI service, which in turn will send the corresponding MAPI commands to the Exchange server. The responses from the Exchange server will be relayed back to the Voicemail Pro server via the MAPI service.

For the client servers to communicate with the Voicemail Pro server, add the port that the MAPI service uses to the Windows Firewall.

1. Open the Windows **Control Panel**.
2. Open **System and Security** | **Windows Firewall**.
3. Click **Advanced settings**.
4. Click **Inbound Rules** in the left pane.
5. Click **New Rule** in the right pane.
   The **New Inbound Rule Wizard** opens up.
6. Select **Port** and click **Next**.
7. Select **TCP** and enter the port number that the MAPI service uses in the **Specific local ports** field.
8. Click **Next**.
9. Select **Allow the connection** and click **Next**.
10. Check the **Domain**, **Private**, and **Public** check boxes.
11. Click **Next**.
12. Enter a name for the rule and click **Finish**.
13. Click **Outbound Rules** in the left pane and repeat step 5 60 to step 12 60.

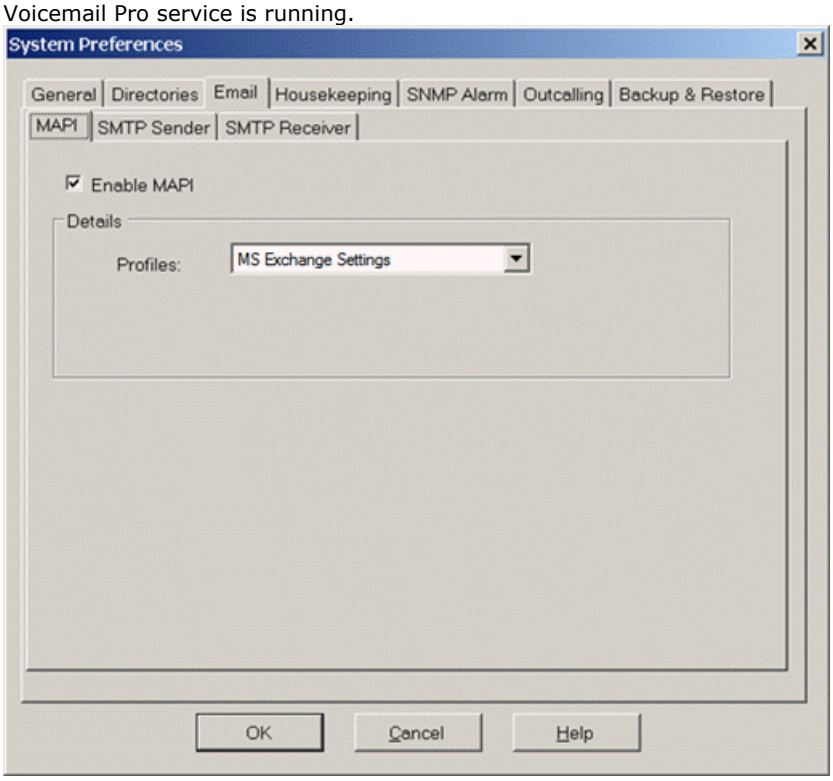
3.5.2.1.5 Switching VoiceMail Pro to MAPI

By default, the Voicemail Pro server is configured for SMTP e-mail mode. However, if MAPI settings are entered it will switch to MAPI mode. Some options are not available if you are working offline. You must be working online to use this feature.

To select the server e-mail mode

1. Start the Voicemail Pro client.
2. Click  **Preferences** and select **General**.
3. Click the **Email** tab.
4. Select the **MAPI** sub tab. Set the settings to match a MAPI account already configured and able to send e-mails from the MAPI client on the voicemail server.
   a. Select the **Enable MAPI** check box to switch the voicemail server to use MAPI for its e-mail options rather than SMTP.

b. Choose the MAPI e-mail account listed in **Profile**. The voicemail server uses this MAPI e-mail account to provide visibility to the e-mail account mailboxes for which the voicemail server requires access. The profile must exist within the MAPI e-mail client on the server computer and must be useable by the Windows account under which the Voicemail Pro service is running.



5. Click **OK**.
6. Click **Save and Make Live**.

3.5.2.2 Work Group Member

Before you start to install the Voicemail Pro software, you must:

1. Create a Voicemail User Account 62.
2. Configure Outlook Express for Internet Mail 63.
3. Configure Outlook for Voicemail E-mail 59.
4. Configure Outlook for Exchange Server 65.

The user name and password created are requested as part of the installation of the Voicemail Pro service. The Microsoft Outlook software must be installed on your computer before you can configure it.

You are then ready to install the Voicemail Pro software. See Installing the Voicemail Pro Software 65.

By default, Voicemail Pro is set to use SMTP for e-mails. Set Voicemail Pro to use MAPI. See Switching Voicemail Pro to MAPI 60.

You also need to set the SMTP E-mail Account settings on the Voicemail Pro so that they match those of the customer's e-mail server. See Changing SMTP E-mail Account Settings 67.

3.5.2.2.1 Installing VoiceMail Pro for MAPI VoiceMail Email as a Work Group Member

Before you start to install the Voicemail Pro software, you must:

1. Create a voicemail user account. See Creating a Voicemail User Account 62.
2. Configure Outlook Express for Internet Mail. See Configuring Outlook Express for Internet Mail 63.
3. Configure Outlook for Internet mail. See Configuring Outlook for Voicemail E-mail 59.
4. Configure Outlook for Exchange server. See Configuring Outlook for Exchange Server 65.

The user name and password created are requested as part of the installation of the Voicemail Pro service. The Microsoft Outlook software must be installed on your computer before you can configure it.

You are then ready to install the Voicemail Pro software. See Installing the Voicemail Pro Software 65.

By default, Voicemail Pro is set to use SMTP for e-mails. Set Voicemail Pro to use MAPI. See , Switching Voicemail Pro to MAPI 60.

You also need to set the SMTP E-mail Account settings on the Voicemail Pro so that they match those of the customer's e-mail server. See Changing SMTP E-mail Account Settings 67.

3.5.2.2.2 Creating a Voicemail User Account

To create a Voicemail User Account

For this example the name of the created user account is **Voicemail**.

1. Log on to the server computer using an administrator account.
2. Open the Windows **Control Panel**.
3. Click **User Accounts** | **Add or remove user accounts**.
4. Click **Create a new account**.
5. Enter *Voicemail* as the new account name and select **Administrator** as the account type.
6. Click **Create Account**.
   The new account **Voicemail** is created and added to the list of user accounts.
7. Click **Voicemail** and create a secure password for the account.
8. Continue with one of the following as appropriate to the installed MAPI client and method for sending e-mail.

3.5.2.2.3 Configuring Outlook Express for Internet Mail

To configure Outlook Express for Internet Mail

1. Click the **Outlook Express** icon to start the Configuration wizard.
2. In the **Display name box** enter ***Voicemail***.
3. Click **Next**.
4. Select **I already have an e-mail address that I'd like to use** and enter the address in E-mail address, eg. voicemail@example.com. Click **Next**.
5. Enter the name or address of the Incoming mail server and the Outgoing mail server.
   Note: If you enter the name, configure the IP address of the DNS Server in the voicemail computer.
6. Click **Next**.
7. Enter the e-mail account name and password, for example Voicemail. Select **Remember password**.
8. Click **Next**.
9. Click **Finish** to complete the wizard.
10. Open Outlook Express and select **Tools** > **Options**.
11. Click the **General** tab.
    - Uncheck **Send and Receive messages at Start up**.
    - Uncheck **Check for new messages every**.
12. Select the **Send** tab.
    - Uncheck **Save copy of sent messages in the 'Sent Items' folder**.
    - Check **Send messages immediately**.
    - Under **Mail Sending Format** select **Plain Text**.
13. Click **OK**.
14. Log on to the server computer using the account that will be used for the Voicemail Pro server.
15. From Outlook or Outlook Express, send a message direct to an extension user.
16. If this message is received correctly, continue with installing the Voicemail Pro software.

For the installation of Outlook to work correctly, the following setup process must be followed. Outlook can be configured in two ways. Using the Wizard, prior to completing the steps below will cause Outlook not to send the messages correctly.

To configure Outlook for Internet Mail:

1. Right-click the Outlook icon on the desktop and select **Properties**.
2. Select **Add**.
3. Select **Internet E-mail** and click **OK**.
4. For the Mail Account, enter ***Voicemail***.
5. For User Information enter Voicemail as the Name and for the **E-mail address** enter your address, for example. **voicemail@example.com**.
6. Select the **Servers** tab. Enter the name or IP address of the **Outgoing mail server** and **Incoming mail server**.
7. The **Incoming Mail Server** details can be left blank as Outlook does not need to check for mail. Otherwise, enter the account name and password for example, ***Voicemail***. Select **Remember password**.
8. Select the **Connection** tab. Select **Connect using my local area network (LAN)**. Click **Next**.
9. Click **OK**.
10. Click **Next**.
11. Accept the default path for file creation.
12. Select **Next**, then **Finish** and then **Close**.
13. Open **Outlook**.
14. On the **E-mail Service Option Screen**, select **Internet Only**.
15. Click **Next**.
16. Select **Yes** to register Outlook as the default e-mail application.
17. Select **Tools > Options**.
18. Click the **Preferences** tab.
19. Click **E-mail Options**.
20. Uncheck **Save copies of messages in Sent Items folder**.
    - You might want this option selected during initial setup and troubleshooting. Due to the size of wav file message attachments it is advisable to uncheck it after installation is complete.
21. Log on to the server computer using the account that will be used for the Voicemail Pro server.
22. From Outlook or Outlook Express, send a message direct to an extension user.
23. If this message is received correctly, continue with installing the Voicemail Pro software.

3.5.2.2.5 Configuring Outlook for Exchange Server

This option can be selected if Outlook is to be configured to connect to the Exchange server, using a valid user name and password, while the Voicemail computer remains a member of a work group.

To configure Outlook for Exchange Server:

1. Create a new mailbox on the Exchange server, for example ***Voicemail***, and assign it the same password as has been configured on the voicemail computer.
2. Clear **User must Change password at Next Logon** and select **Password Never Expires**.
3. On the voicemail computer, logon with the ***Voicemail*** account.
4. Right-click the Outlook icon on the desktop and select **Properties**.
5. Select **Add**.
6. Highlight **Microsoft Exchange Server** and click OK.
7. Type in the Exchange server name and enter ***Voicemail*** in the **Mailbox** field.
8. Highlight the **MS Exchange Settings**, Click **Properties**.
9. Highlight **Microsoft Exchange Server**. Click **Properties**.
10. Click **Check name**.
11. If the name is resolved, select **Apply**. Click **OK**, **OK** and **Close** to shut the Mail settings.
12. Do not continue until the name has been resolved correctly with the Exchange server. If the name is not resolved, check the account details with the Exchange administrator.
13. Open **Outlook** and select **Yes** to register Outlook as the default e-mail application.
14. Select **Tools** > **Options**.
15. Choose the **Preferences** tab. Click **E-mail Options**.
16. Uncheck **Save copies of messages in Sent Items folder**.
    - You can keep this option selected during initial setup and troubleshooting. Due to the size of the wav file message attachments, deselect it once the installation is complete.
17. Log on to the server computer using the account that will be used for the Voicemail Pro server.
18. From Outlook or Outlook Express, send a message direct to an extension user.
19. If this message is received correctly, continue with installing the Voicemail Pro software.

3.5.2.2.6 Installing the VoiceMail Pro Software

To install Voicemail Pro software, perform the following steps:

1. Log off and log on using the Voicemail account and password.
2. Install the required Voicemail Pro software.
3. When the system prompts for a User Name and Password for the Voicemail Pro service, enter the Voicemail account details.
4. Restart the server and log on using the Voicemail account.
5. When SMTP e-mail details are requested, enter no values and ignore the error message following the SMTP check.
6. Start the Voicemail Pro Service 28.
7. Check that the basic voicemail services start and operate correctly.

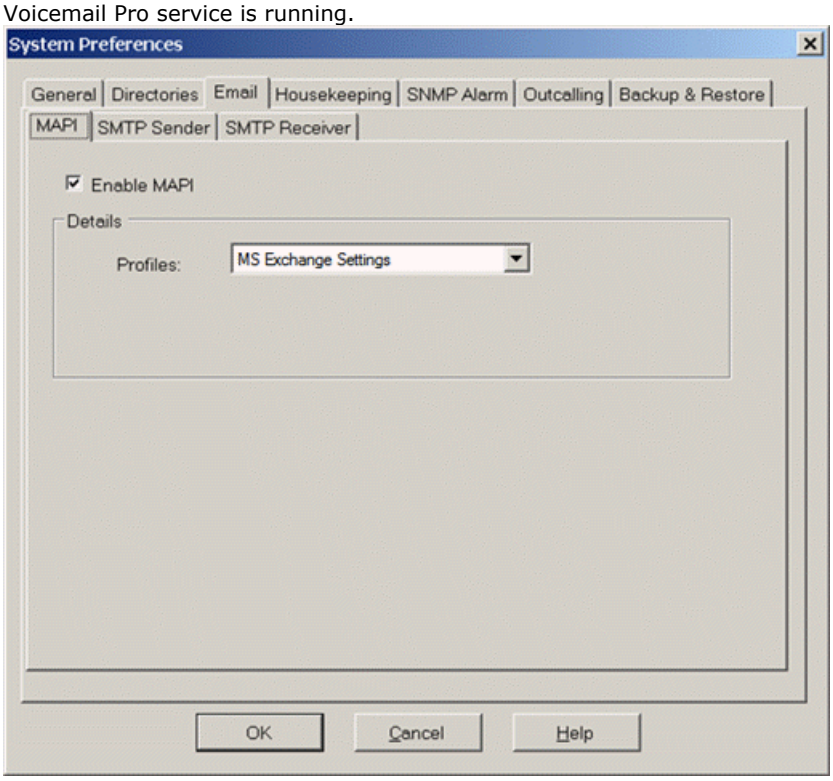
3.5.2.2.7 Switching VoiceMail Pro to MAPI

By default, the Voicemail Pro server is configured for SMTP e-mail mode. However, if MAPI settings are entered it will switch to MAPI mode. Some options are not available if you are working offline. You must be working online to use this feature.

To select the server e-mail mode

1. Start the Voicemail Pro client.
2. Click **Preferences** and select **General**.
3. Click the **Email** tab.
4. Select the **MAPI** sub tab. Set the settings to match a MAPI account already configured and able to send e-mails from the MAPI client on the voicemail server.
   a. Select the **Enable MAPI** check box to switch the voicemail server to use MAPI for its e-mail options rather than SMTP.

b. Choose the MAPI e-mail account listed in **Profile**. The voicemail server uses this MAPI e-mail account to provide visibility to the e-mail account mailboxes for which the voicemail server requires access. The profile must exist within the MAPI e-mail client on the server computer and must be useable by the Windows account under which the Voicemail Pro service is running.

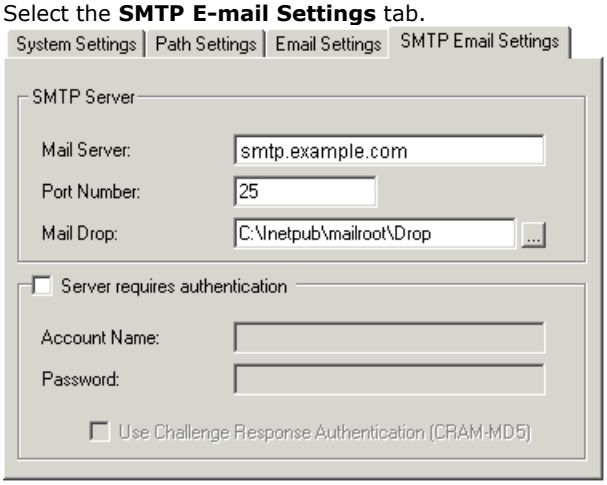


5. Click **OK**.
6. Click **Save and Make Live**.

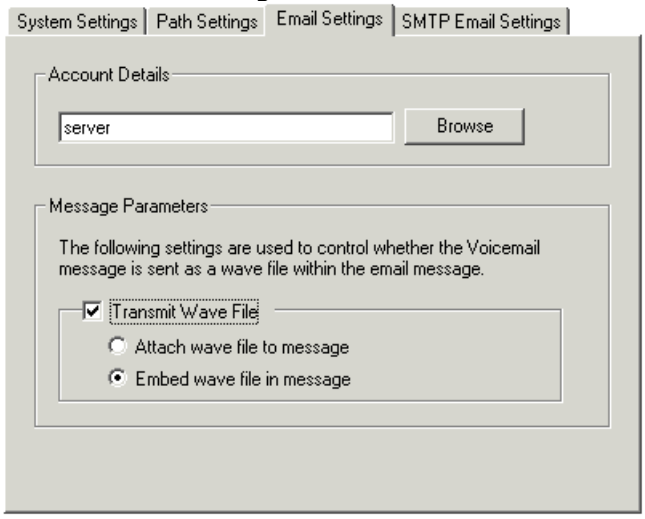
3.5.2.2.8 Changing SMTP Email Account Settings

To change SMTP E-mail Account Settings:

1. Open the Windows **Control Panel**.
2. Select **IP Office Voicemail Pro**.
3. Select the **SMTP E-mail Settings** tab.



4. Enter the settings to match the customer's e-mail server and the e-mail account configured on that server for the Voicemail Pro service.
5. Click the **E-mail Settings** tab.

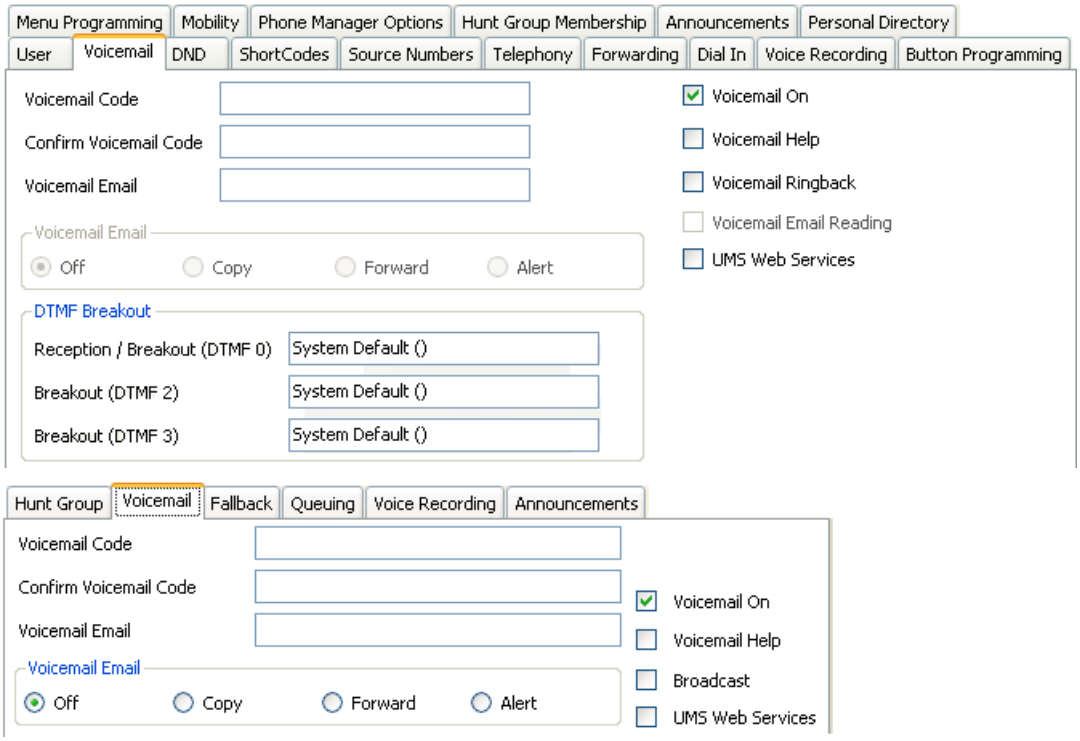


6. Enter the e-mail address for the account setup on the customer's e-mail server for the Voicemail Pro service.
7. Click **Check** to test the connection to the specified e-mail account.
8. Click **OK**.

3.5.3 Voicemail Email Operation

3.5.3.1 User and Group Configuration

The e-mail address for each user and hunt group is set through the IP Office configuration.



- **Voicemail E-mail:** *Default = Blank (No voicemail e-mail features)*
  This field is used to set the user or group e-mail address used by the voicemail server for voicemail e-mail operation. When an address is entered, the additional Voicemail E-mail control below are selectable to configure the type of voicemail e-mail service that should be provided.
  - Use of voicemail e-mail requires the voicemail pro server to have been configured to use either a local MAPI e-mail client or an SMTP e-mail server account. See Voicemail E-mail Installation 54.
  - Use of voicemail e-mail for sending (automatic or manual) e-mail messages with wav files attached requires discretion, as a one-minute message creates a wav file of 1MB size.
- **Voicemail E-mail** *Default = Off*
  If an e-mail address is entered for the user or group, the following options become selectable. These control the mode of automatic voicemail e-mail operation provided by the voicemail server whenever the voicemail mailbox receives a new voicemail message.
    - Users can change their voicemail e-mail mode using visual voice. If the voicemail server is set to IP Office mode, user can also change their voicemail e-mail mode through the telephone prompts. The ability to change the voicemail e-mail mode can also be provided in a call flow using a **Personal Options Menu** action or a **Generic** action.
    - If the voicemail server is set to IP Office mode, users can manually forward a message to e-mail.
  - **Off**
    If off, none of the options below are used for automatic voicemail e-mail. Users can also select this mode by dialing ***03*** from their extension.
  - **Copy**
    If this mode is selected, each time a new voicemail message is received in the voicemail mailbox, a copy of the message is attached to an e-mail and sent to the e-mail address. There is no mailbox synchronization between the e-mail and voicemail mailboxes. For example reading and deletion of the e-mail message does not affect the message in the voicemail mailbox or the message waiting indication provided for that new message.
  - **Forward**
    If this mode is selected, each time a new voicemail message is received in the voicemail mailbox, that message is attached to an e-mail and sent to the e-mail address. No copy of the voicemail message is retained in the voicemail mailbox and their is no message waiting indication. As with Copy, their is no mailbox synchronization between the e-mail and voicemail mailboxes. Users can also select this mode by dialing ***01*** from their extension.

- **UMS Exchange**
  Voicemail Pro 5.0+ supports voicemail e-mail to an Exchange server e-mail account. For users and groups also enabled for UMS Web Services this significantly changes their mailbox operation. The Exchange server inbox is used as their voicemail message store and features such as message waiting indication are set by new messages in that location rather than the voicemail mailbox on the voicemail server. Telephone access to voicemail messages, including Visual Voice access, is redirected to the Exchange server mailbox. See UMS Exchange Server Installation 42 and UMS Exchange.

- **Alert**
  If this mode is selected, each time a new voicemail message is received in the voicemail mailbox, a simple e-mail message is sent to the e-mail address. This is an e-mail message announcing details of the voicemail message but with no copy of the voicemail message attached. Users can also select this mode by dialing ***02** from their extension.

3.5.3.2 How Voicemail Email Messages Look

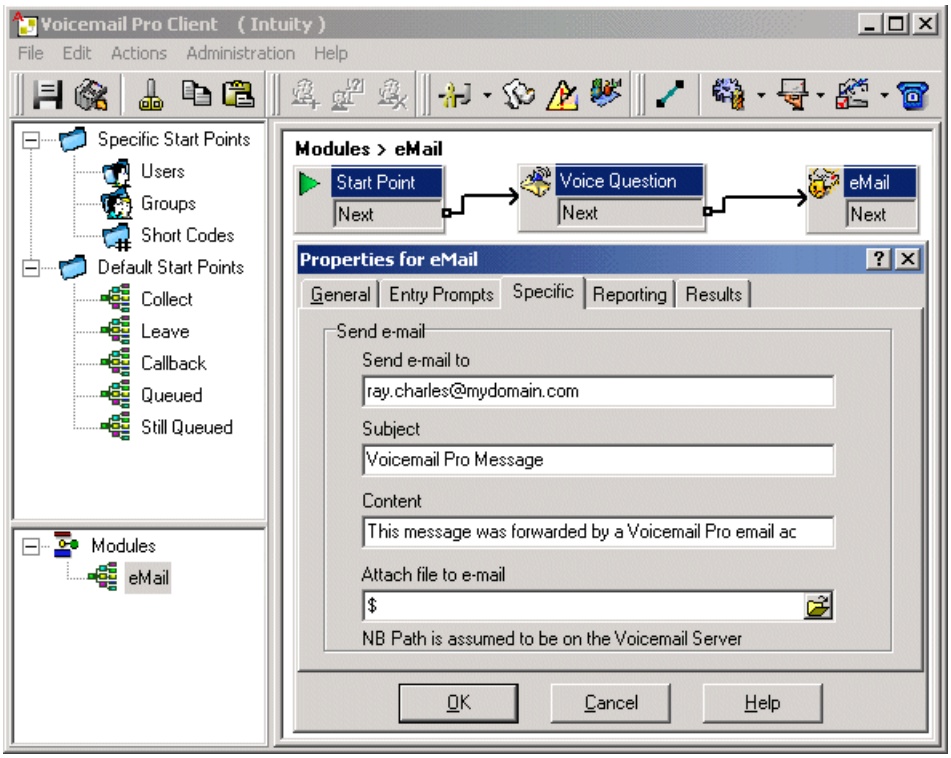
Messages sent by a user or group's voicemail e-mail settings contain the following:

- **To**
  The user/group e-mail address.
- **From**
  The name and address setting of the e-mail client account.
- **Subject**
  `Voicemail Message ('calling number' > 'user name') From:'calling number'.`
- **Body**
  If the user or group's Voicemail E-mail mode is set to Copy or Forward, the message body will contain "`IP Office Voicemail redirected message`".
- **Attachment**
  When using Copy or Forward mode, the message is attached as a wav file.

Messages sent through a Voicemail Pro eMail action are configurable, see The Voicemail Pro eMail Action 70.

3.5.3.3 The Voicemail Pro Email Action

The **eMail** action in Voicemail Pro can be used to send messages through e-mail in response to caller actions in the voicemail call flow. The action can also attach a wav file.



In the example above, the **eMail** action follows a **Voice Question** action. The **$** in the eMail action's **Attach file to e-mail** field instructs it to use the file recorded by the preceding **Voice Question** action.

The same method can be used with a **Leave Mail** action. Note however that the **Leave Mail** action must be set to a valid target mailbox which will then have a copy of the message.

Alternatively, the **eMail** action can attach a prerecorded wav file by specifying the file name. That named file can be created by an **Edit Play List** action.

3.6 Text To Speech (TTS) Installation

The Voicemail Pro server uses Text To Speech (TTS) in the following ways:

- Speak text in call flows using the  **Speak Text** action. The text can include variables passed from other actions including database actions.
- When installed in parallel with Voicemail E-mail 54, TTS can be used to provide e-mail reading 72 to selected mailbox users.
- TTS can be used by the Voicemail Pro client user to record prompts used by call flow actions.

Windows TTS Licensing

Voicemail Pro TTS requires the server computer to have a Microsoft SAPI 5 compatible TTS engine installed and a valid license entry.

- **E-mail Reading**
  Users who want to use this feature must have their user profile configured as either ***Mobile User*** or ***Power User*** using **Mobile User Profile** or **Power User Profile** licenses. In addition, IP Office with a Windows-based voicemail server must have a **VMPro TTS (Generic)** or a **VMPro TTS (ScanSoft)** license and IP Office with a Windows-based voicemail server must have a **VMPro TTS Professional** license for e-mail reading to work.
- **Speak Text Actions / Prompt Recording**
  The license for this operation depend on whether you will be using the Avaya-supplied ScanSoft TTS speech engines or a 3rd party generic TTS speech engines (including the TTS speech engines included in Microsoft operating systems).
  - **Generic TTS**
    The use of up to 8 simultaneous generic TTS ports is enabled by the **Advanced Edition** license. Alternatively separate **VMPro TTS (Generic)** licenses can be added.
  - **Avaya ScanSoft TTS**
    The use of the Avaya supplied ScanSoft TTS engines is licensed by the addition of **VMPro TTS (ScanSoft)** licenses to the IP Office configuration.

Generic TTS Licensing

If you add both **VMPro TTS (Generic)** and **VMPro TTS (ScanSoft)** licenses, the system will use both of the TTS engines for calls on a first-come-first-serve basis. You will not be able to control the use of TTS engine for particular calls. Therefore, license only one type of TTS engine within a system.

Languages

For Voicemail Pro 5.0 or higher on Windows, the TTS engine supports the same set of languages as Voicemail Pro speech prompts except for Hungarian.

If more than one TTS language is installed, use **Select System Prompt Language** action to switch TTS to a different language from the selected default.

- **Installation on Windows Server Operating Systems**
  On many Windows server computers, while the Windows Audio components are present by default they are not always enabled. If this is the case the playback of voice prompts may be 'choppy' and the TTS (if installed) will not work. However, enabling Windows Audio does not require the server computer to have a sound card installed.
  1. Verify that you have full administrator rights for the computer.
  2. Click **Start** | **Administrative Tools** | **Services**.
  3. If the status of the **Windows Audio** service is not **Started**, start the service and set the **Startup Type** to **Automatic**.

3.6.1 Installing Generic Text to Speech

To install Text To Speech:

1. Install and test Voicemail Pro as normal.
2. Using IP Office Manager, add the **Advanced Edition** or **VMPro TTS (Generic)** license into the IP Office configuration. Send the new configuration to the IP Office system.
3. Reload the IP Office configuration into IP Office Manager and check that the status of the license has changed to **Valid**.
4. The Voicemail Pro installation includes the default Microsoft TTS engines (Microsoft Sam, Mike, Mary, and Simplified Chinese) as standard. If another third-party SAPI 5 compatible TTS engine is going to be used, install that software.
5. If the system is licensed for generic TTS, Voicemail Pro will automatically discover any SAPI 5 installed engine. If there is no third-party engine installed then the Microsoft third-party engine is used.

3.6.2 Installing Avaya Text to Speech

The Avaya TTS engine for Voicemail Pro is supplied on media disks (x2) separate from the Voicemail Pro software installation media. By default, TTS engine installation also includes installation of the English US and English UK language packs.

To install Avaya Text To Speech on Microsoft Windows:

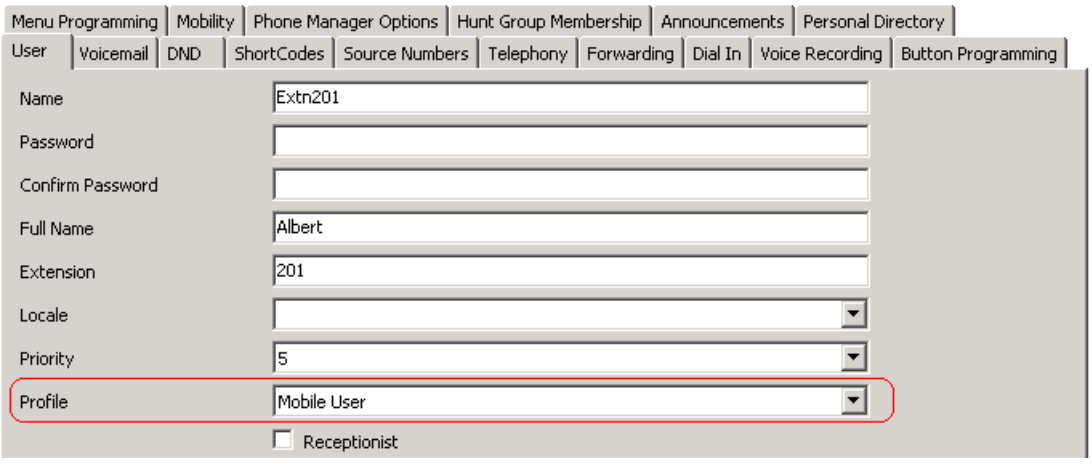
1. Install and test Voicemail Pro as normal.
2. Using IP Office Manager, add the **VMPro TTS (ScanSoft)** license into the IP Office configuration. Send the new configuration to the IP Office system.
3. Reload the IP Office configuration into IP Office Manager and check that the status of the license has changed to **Valid**.
4. Insert the first Avaya TTS DVD. The installation should auto-start.
5. Follow the prompts and install the required languages.
6. If the system is licensed for Avaya TTS, the ScanSoft engine is automatically used.

3.6.3 Setting Up Text To Speech to Read Email

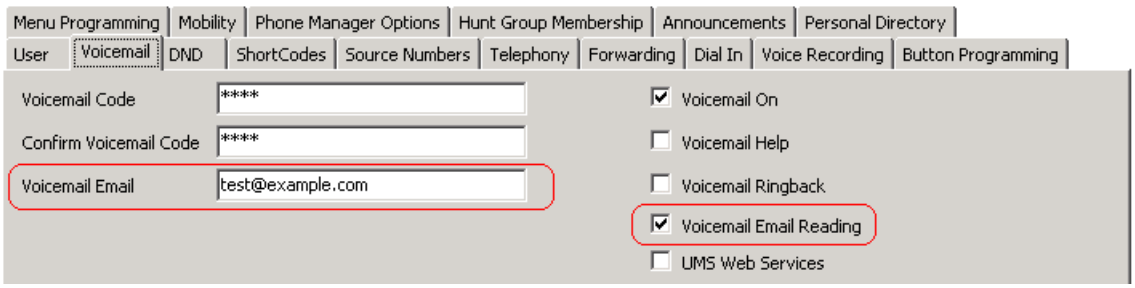
In conjunction with MAPI e-mail clients and Exchange server, TTS can be used to read new e-mails in a user's e-mail inbox when they access their voicemail mailbox.

- The Voicemail Pro server must have been installed and configure to support voicemail e-mail using a MAPI client 54 .
- E-mail reading can only be enabled for IP Office users whose Profile setting is set to Mobile User or Power User. IP Office must have a **VMPro TTS (Generic)** or a **VMPro TTS (ScanSoft)** license for e-mail reading to work with a Windows-based voicemail server and a **VMPro TTS Professional** license for e-mail reading to work with a Linux-based voicemail server.
- This feature is supported only for Intuity mode. Users hear their new voicemail messages and then the number of "Messages with text". Before each e-mail is spoken, details of who it is from, when the message was sent and the size are given. These details assist you in deciding to skip large or non-urgent e-mails.
- E-mail reading cannot be used for e-mails in HTML format. If HTML messages are received, all of the code will be read out as a message.

1. Within the IP Office configuration, display the settings for the user.
2. On the **User** tab, set the user's **Profile** to either **Mobile User** or **Power User**.



3. On the **Voicemail** tab:



- **Voicemail E-mail**
  Enter the user's e-mail address.

- **Voicemail E-mail Reading**
  Enable this option for TTS e-mail reading.

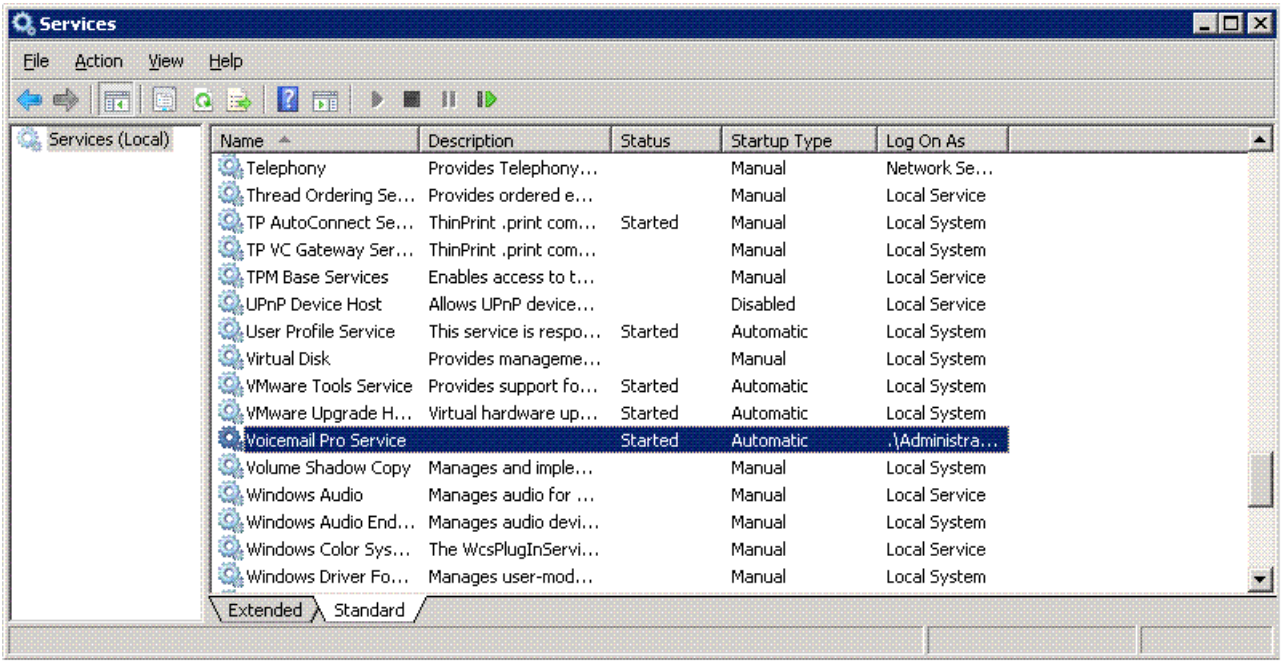
3.7 Troubleshooting

3.7.1 Checking the Voicemail Pro Service

If you have installed Voicemail Pro successfully and rebooted the server computer, then the voicemail service starts automatically. However, you can restart the service manually, if required.

To check/restart the Voicemail Pro Service:

1. Click **Start** | **Administrative Tools** | **Services**.



2. The **Voicemail Pro Service** should be visible. Its **Status** should be ***Started*** and the **Startup Type** should be set to ***Automatic***. Other services may be present depending on the installed Voicemail Pro features. The **Voicemail Pro Service** is the main Voicemail Pro service. This is the only service that needs to be stopped and restarted. It will stop and restart the other services that it uses.
3. Close **Services**.

Setting the Voicemail Pro Service or Computer to Restart Automatically

The following action is optional. If a fault causes the Voicemail Pro service to stop, the fault should be investigated and fixed. However, setting the options to restart the services or the computer automatically will minimize the disruption to the Voicemail Pro users.

1. Click **Start** | **Administrative Tools** | **Services**.
2. Right-click **Voicemail Pro Service** and select **Properties**.
3. Select the **Recovery** tab.
4. Select the items in the drop-down lists to specify the action that the computer must take in case of failures.

Using a Batch File to Start Services

In some instances, certain computers might not respond quickly enough to start all of the Avaya services in the correct order. In this circumstance, it is advisable to create a batch file which delays the start of these services until the computer is fully running.

Avaya IP Office Services can be started successfully at system start-up using a scheduled task that initiates the batch file below. This batch file ensures that the services will start successfully and in the correct order.

1. Set all Avaya services listed below to Manual start. Do not include Key Server.
2. Create the batch file below and save it to %SYSTEMROOT%. Only include lines for the services which are installed.

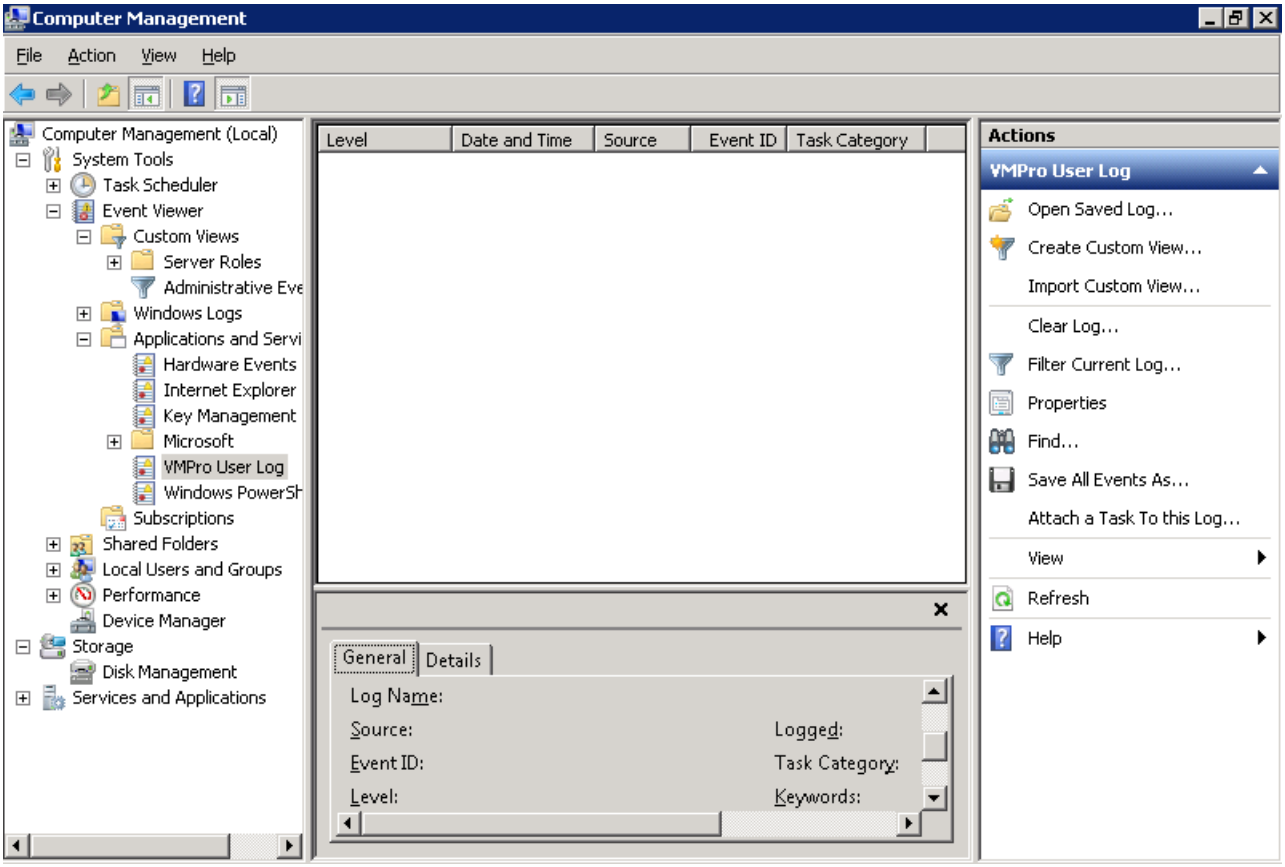
```
@echo off
rem Wait 60 seconds before execute.
timeout /t 60
net start Voicemail Pro Service
```

3. Create a scheduled task to start the batch file at system start-up.

3.7.2 Voicemail Pro User Log

User authentication failures are logged in the event viewer, under VMPro User Log. The following details are logged:

- UserID
- Tool name
- IP address of the Client trying to log in.

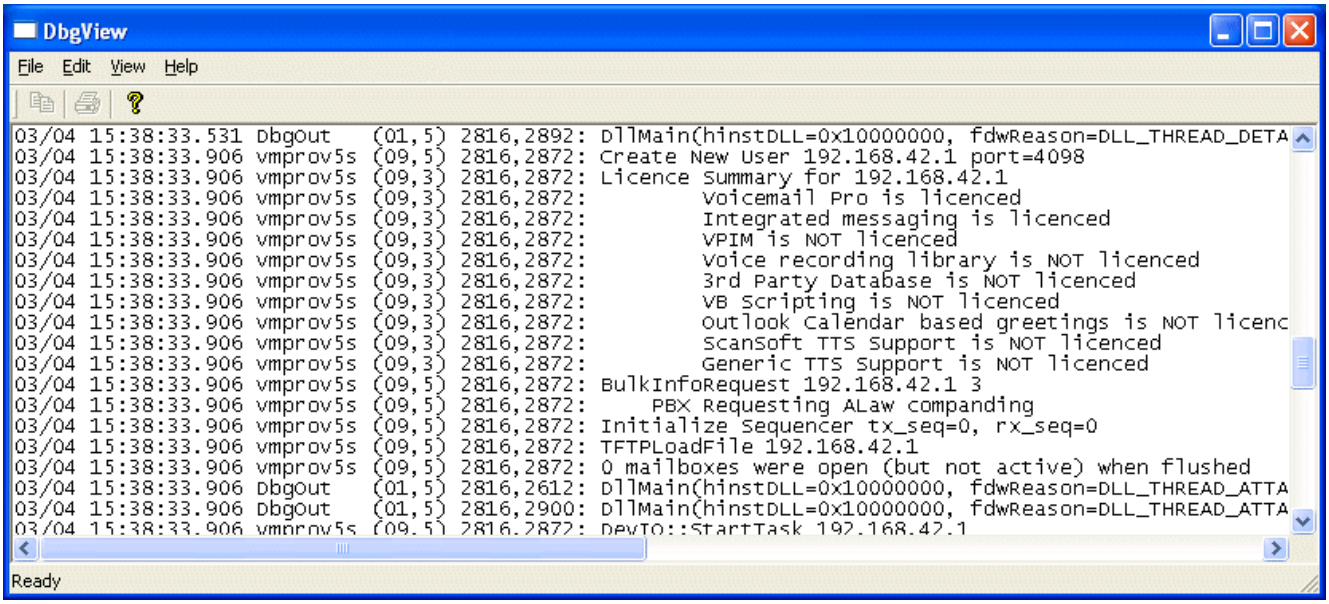


To view the log details:

1. Click **Start** | **Administrative Tools** | **Computer Management**.
2. In the left pane, expand **System Tools** | **Event Viewer** | **Applications and Services Logs** and click **VMPro User Log** in the tree to view the details.

3.7.3 Tracing in Debug

Many applications, including Voicemail Pro, output activity messages that are viewable in Debug View (DbgView). This application can be downloaded at **http://marketingtools.avaya.com/knowledgebase/tools/debug**.

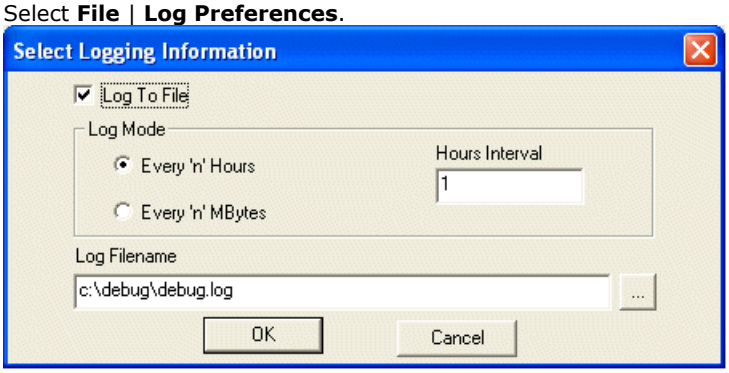


Installation

1. Download the zip file.
2. Unpack the files into a folder such as c:\debug on the server computer.
3. Run **DbgView.exe**.
4. Events are shown in the DbgView window. These can be logged to a file if required. The level of detail shown can be filtered to show more or less activity.

Logging

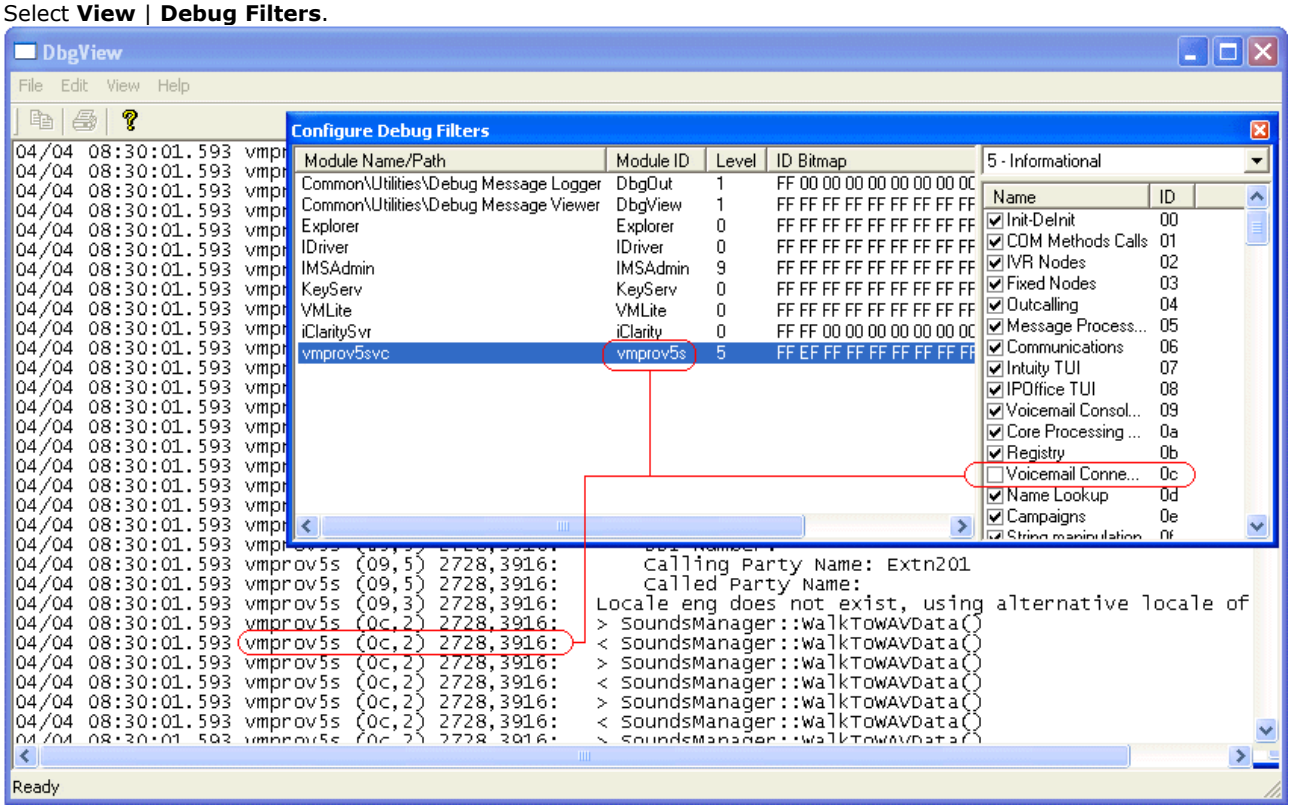
1. Run **DbgView.exe**.
2. Select **File** | **Log Preferences**.



3. Set the logging details are required and click **OK**.
4. While **DbgView** is running the viewable trace is also copied to the specified file.
5. The debug log files can be opened in programs such as **WordPad**.

Filtering

1. Select **View** | **Debug Filters**.



2. Select the module for which you want to increase/decrease reporting.
3. In the right hand panel adjust the level of reporting.
4. Close the **Configure Debug Filters** window.

3.7.4 The Voicemail Console

The voicemail console mode (that is running as the voicemail service in **Interact with desktop** mode) is no longer used. Running services in this mode is not supported by Microsoft on Vista or Server 2008.

Instead you should use the debug viewer 75 to view voicemail server activity as it occurs.

Chapter 4.

Using the Voicemail Pro Client

4. Using the Voicemail Pro Client

The Voicemail Pro client is used to administer the Voicemail Pro server. This section covers the basic operation of the Voicemail Pro client to connect to a Voicemail Pro server. For details on administration using the Voicemail Pro client, see *Avaya IP Office Administering Voicemail Pro* (15-601063).

For a Windows-based server, the client can be installed on the same server and used locally to administer the server. The client can also be installed separately on another Windows computer and then be used to administer the server remotely.

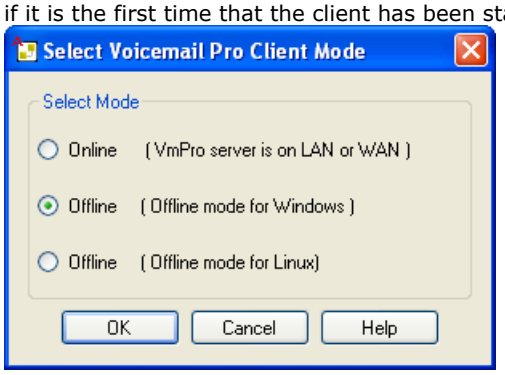
4.1 Logging in to the Voicemail Pro Server

If you start the Voicemail Pro client on the same computer as the voicemail server, the system will automatically load the settings to manage the server. You will have full access to all the servers settings, you do not need to login with an administrator account name and password.

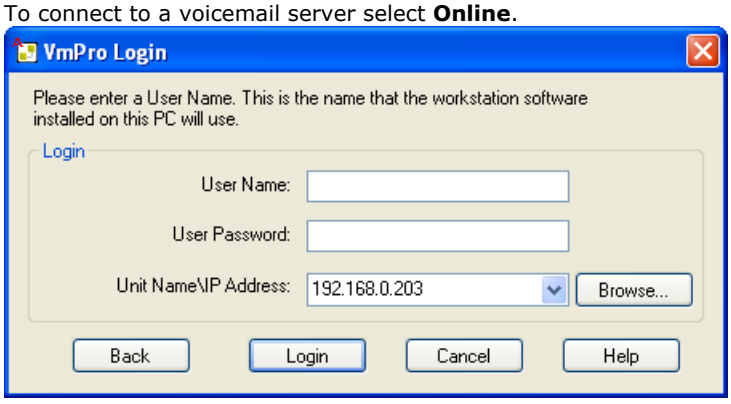
To connect to a remote voicemail server you will need to login using the name and password of an administrator account already configured on that server. The default account is ***Administrator*** and ***Administrator***. After logging in with this account you should change the password from that default value.

To Start the Voicemail Pro Client

1. From the **Start** menu, select **Programs** | **IP Office** | **Voicemail Pro Client**.
2. The Voicemail Pro Client window opens.
   - If the client has been started before, it will start in the same mode as it used previously. If it fails to do that or if it is the first time that the client has been started, the select mode menu is displayed.



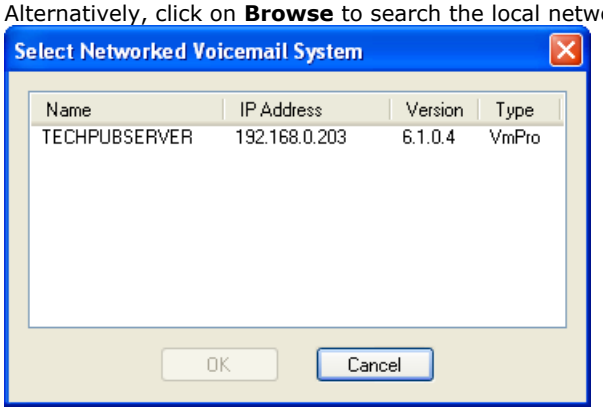
   - Select either of the **Offline** modes to import and export voicemail call flow and module files without being connected to any voicemail server.
   - To connect to a voicemail server select **Online**.



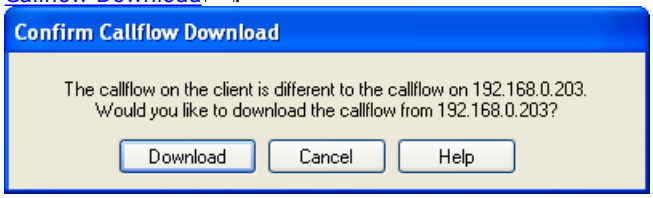
     - Enter the name and password for an administrator account on the voicemail server.
       - Note that these are not required is accessing a voicemail server on the same computer as the client.
       - The default account is ***Administrator*** and ***Administrator***. After logging in with this account you should change the password from that default value.
       - If three consecutive login attempts fail for an administrator account name, the account is locked for an hour.

- In the **Unit Name\IP Address** field enter the DNS name or IP address of the voicemail server.

  Alternatively, click on **Browse** to search the local network for a server and select a server from the results.



  If connected to a remote server, the **Confirm Callflow Download** window will be displayed. If you select Download, any existing call flow that you have loaded in the client will be overwritten. For more details see Callflow Download 80.



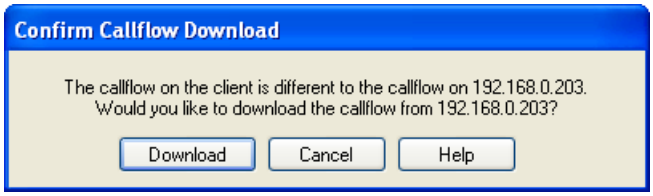
3. If this is the first time that the voicemail server has been logged into, you should first change the default remote access account.
   - If you logged in remotely using the default account, select **File** | **Change Password**.
   - If you logged in locally, select **Voicemail Pro Administrators** in the navigation panel.

4.2 Confirm Call Flow Download Window

When you connect to a server across a LAN or WAN to view or modify the call flow on the server, a check is made to see if the call flow that is stored locally on the client is the same. The call flow on the server might be different to the call flow on the client because:

- The local call flow is older than the version on the server, for example if the call flow on the server has been modified by another Client connection.
- The local call flow is newer than the version on the server, for example if the call flow on the server has been worked on while the local Client was being used in offline mode.
- The local call flow is from a different server, for example if you are connecting to a different server to the one from which the call flow was previously downloaded.

If the call flow is the same, no data will need to be copied from the server to the client. If the call flow is different you can chose to download the call flow from the server or to use the local call flow.



- **Download**
  Click to download the call flow from the server.
- **Cancel**
  Click this if you do not want to download the call flow from the server.

To upload the local call flow to the server, use the **Save** or **Save and Make Live** options from the **File** menu. See Saving Changes and Making them Live 81.

4.3 Continue Offline Message Window

Only one Voicemail Pro client can be connected to a voicemail server at any time. To prevent an idle client session from blocking the server, a Client/Server Connection Timeout (mins) 97 setting is used to disconnect the idle client session. By default, the timeout is set to 5 minutes.

If your Voicemail Pro client session has timed out, the Voicemail Pro client will prompt you whether to re-establish the session or close. You are then able to continue working in offline mode or to close the client.

4.4 Saving Changes

Using Voicemail Pro Client, you can make changes to call flow settings and can save the changes. To apply the changes to the voicemail server operation, you must also make the changes live.

To save the changes in offline mode

1. Click **Save** to save the changes to the local database.
2. After you log in, click **Save & Make Live** to make the changes live.

To save the changes in online mode

Click **Save & Make Live** to save the changes and make the changes live.

To save the changes to a file

Click **Save as** to save the call flow database as a ***.vmp*** file.

You can include a ***.vmp*** file in the operation of any voicemail system.

4.5 Logging Out

It can be useful to connect to a system to download the current system configuration and then disconnect and make changes offline. You can then test configuration changes offline before applying them to a live system.

- Logging out is not the same as closing down with the **Exit** option. See Closing Down 81.

To Log Out

1. From the **File** menu, select **Log Out**.
2. You are logged out of the Voicemail Pro server and placed in offline mode. You can either make configuration changes offline and then log back in when you are ready or log on to a different server to work. See Logging in to the Voicemail Pro Server 78.

4.6 Closing Down

When you have finished working, you can close down the Voicemail Pro Client.

To Close the Voicemail Pro Client

1. From the File menu, select **Exit**.
2. If you have not made any changes, the Voicemail Pro Client closes and you are returned to the desktop. If you have made any changes, you are prompted whether to save the changes.
3. If you do not want to save the changes, click **No**. No changes are saved. If you want to save the changes, click **Yes** . The changes are saved but not made live.
4. If you want to make the changes live, click **Save & make Live**.

Chapter 5.
IP Office Configuration

5. IP Office Configuration

The default IP Office configuration settings support almost immediate voicemail operation as soon as a voicemail server is running on the LAN. Those default settings are:

- Voicemail running on a computer accessible by the IP Office using a broadcast address of 255.255.255.255.
- Voicemail on for each user and hunt group on.
- No Voicemail Code set for any mailboxes. Until a code is entered for a mailbox, it can only be accessed from the user's own extension.
- No Voicemail E-mail or Voicemail Help operation.
- No Voicemail Reception numbers set for user mailboxes.
- Hunt group mailboxes are created and used by default but there is no default message waiting indication or method for collecting messages. A method for accessing each hunt group mailbox should be programmed.

5.1 User and Group Mailboxes

The voicemail server creates mailboxes based on the user and hunt group names that are entered in the IP Office Manager application. Whenever the Voicemail Pro is restarted or the IP Office configuration is changed, new mailboxes are created for any new names that are found.

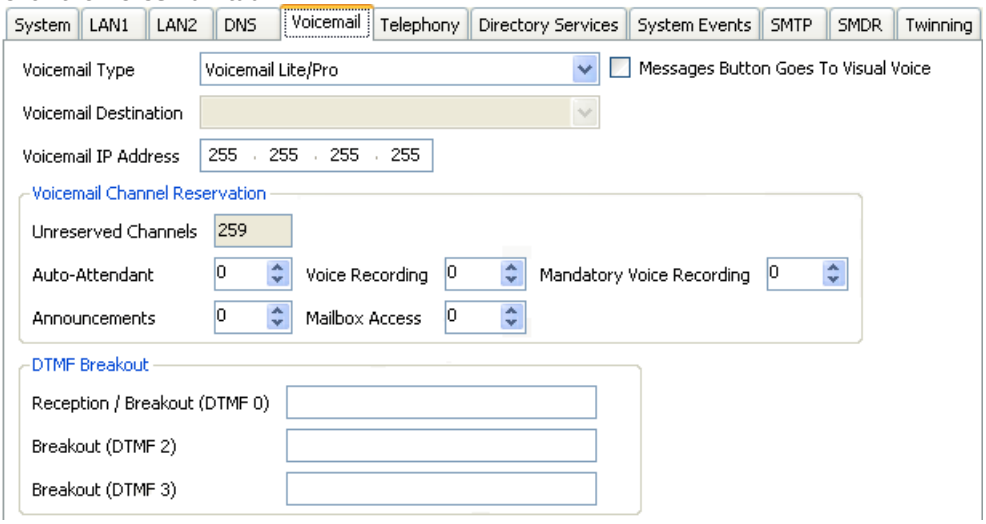
This method of operation has the following consequences:

- **Mailboxes are based on names**
  For all users and groups, if their name is changed or deleted, they are no longer associated with their former mailbox and any associated Voicemail Pro start points.
- **Voicemail is case sensitive**
  If a mailbox or start point name is entered incorrectly in IP Office Manager or Voicemail Pro, the intended operation will not occur and the call may be disconnected.
- **Voicemail removes spaces at the end of mailbox names**
  If spaces are left at the end of a mailbox user's name in IP Office Manager, when the mailboxes are created, the space at the end of the name is dropped. When this occurs the mailbox cannot be found as there is a mismatch between the user name and directory.

5.2 System Settings

The IP Office can work with several different types of voicemail server. Therefore it is important to check that it is configured for operation with Voicemail Pro.

1. In IP Office Manager, select **System**.
2. Click the **Voicemail** tab.



- **Voicemail Type**
  Specifies the type of voicemail system the IP Office is configured to work with. Unless detailed otherwise, the option ***Voicemail Lite/Pro*** should be used with Voicemail Pro server. Additional options are displayed depending on the selected voicemail type.
  - **Centralized Voicemail** 117
    This setting is used for remote systems in a Small Community Network where the central voicemail server is being hosted by another IP Office. The **Voicemail Destination** field below is used to enter the **Outgoing Group ID** of the SCN trunk to the IP Office hosting the central voicemail server.
  - **Distributed Voicemail** 121 *(Software level = IP Office Release 6)*
    This option is used in a Small Community Network for remote IP Offices that you want to be associated with their own voicemail servers in addition to the central voicemail server. The IP Office will require licenses for Voicemail Pro operation and for the voicemail features required. The **Voicemail IP Address** below is used to enter the IP address of the IP Office's voicemail server while the **Voicemail Destination** field below is still used to set location of the central voicemail server as for centralized voicemail.
  - **Embedded Voicemail**
    Not used with Voicemail Pro.
  - **Group Voicemail**
    Not used with Voicemail Pro.
  - **Remote Audix Voicemail**
    Not used with Voicemail Pro.
  - **Voicemail Lite/Pro**
    This is the normal setting used for Voicemail Pro.
- **Voicemail IP Address**
  By default the IP Office connects to the Voicemail Pro server by using the address 255.255.255.255 to broadcast for any server on the same LAN as itself. When it receives a response it will use that voicemail server. However you can set this access to a specific address. Change the default address (*255.255.255.255*) to the IP address of the computer on which the Voicemail Pro server is running.
  For configuration of IP Office systems using centralized Voicemail Pro in an IP Office Small Community Network (SCN), see Centralized Voicemail Pro 116.
- **Message Button Go To Visual Voice**
  Many Avaya telephones have a fixed button labeled **MESSAGES** which can be used by the telephone user to access their mailbox. If this option is selected, then on telephones able to support Visual Voice, visual voice is used when the button is pressed rather than the standard voice prompt interface.
- **Voicemail Channel Reservation**
  For calls going to voicemail from the IP Office, the IP Office can restrict how many sessions of various types are active at the same time. See Voicemail Channel Reservation 93.
- **DTMF Breakout** *(IP Office 5.0)*
  Previous breakout numbers for a user mailbox were set through the user voicemail settings 88. IP Office 5.0+ supports system defaults to be set. These are then applied to all user mailboxes unless the users own settings differ.

- **Reception / Breakout (DTMF 0)**
  The number to which a caller is transferred if they press ***0*** while listening to the mailbox greeting rather than leaving a message (****0*** on embedded voicemail).
  - For systems set to Intuity emulation mode, the mailbox user can also access this option when collecting their messages by dialing ****0***.
  - If the mailbox has been reached through a call flow containing a **Leave Mail** action, the option provided when 0 is pressed are:
    - For IP Office mode, the call follows the **Leave Mail** action's ***Failure*** or ***Success*** results connections depending on whether the caller pressed 0 before or after the record tone.
    - For Intuity mode, pressing 0 always follows the **Reception / Breakout (DTMF 0)** setting.
- **Breakout (DTMF 2)**
  The number to which a caller is transferred if they press ***2*** while listening to the mailbox greeting rather than leaving a message (****2*** on embedded voicemail). For pre-5.0 systems this option is not support for Voicemail Pro running in IP Office mailbox mode.
- **Breakout (DTMF 3)**
  The number to which a caller is transferred if they press ***3*** while listening to the mailbox greeting rather than leaving a message (****3*** on embedded voicemail). For pre-5.0 systems this option is not support for Voicemail Pro running in IP Office mailbox mode.

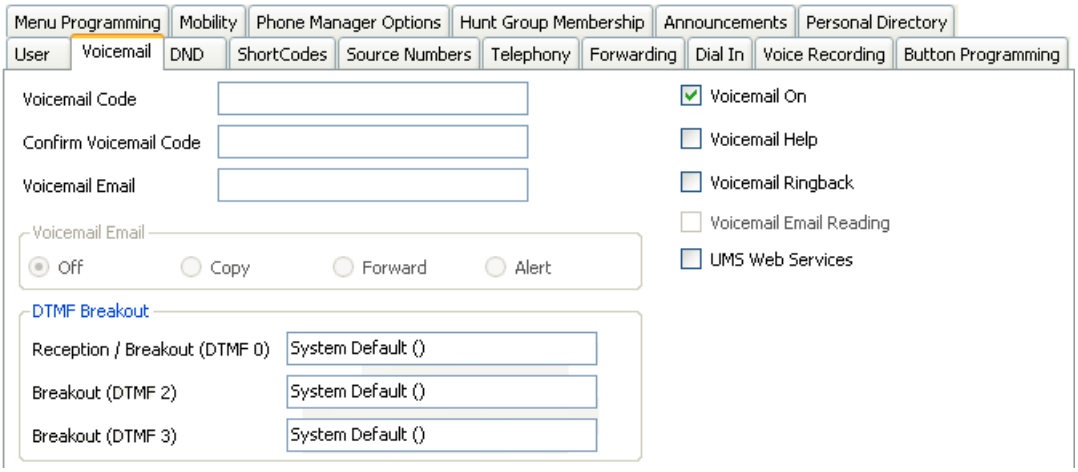
- **SIP Settings**
  These options are available when the IP Office configuration contains a SIP line or an H323 SCN line. The values are used when the voicemail server makes calls using a SIP trunk or to a SIP device.
  - **SIP Name:** *Default = User name.*
    The value from this field is used when the **From** field of the SIP URI being used for a SIP call is set to ***Use Internal Data***.
  - **SIP Display Name (Alias):** *Default = User name.*
    The value from this field is used when the **Display Name** field of the SIP URI being used for a SIP call is set to ***Use Internal Data***.
  - **Contact:** *Default = User name.*
    The value from this field is used when the **Contact** field of the SIP URI being used for a SIP call is set to ***Use Internal Data***.
  - **Anonymous:** *Default = Off.*
    If the From field in the SIP URI is set to ***Use Internal Data***, selecting this option inserts ***Anonymous*** into that field rather than the SIP Name set above.

3. Click **OK** to save any changes.
4. Send the configuration back to the IP Office.

5.3 User Voicemail Settings

Voicemail can be configured for each individual user in IP Office Manager.

1. Open IP Office Manager.
2. In the Navigation pane, click **User** and select the individual user.
3. Select the **Voicemail** tab.



- **Voicemail Code / Confirm Voicemail Code**
  These fields are used to set or change the user's mailbox passcode.
  - If the voicemail server is set to ***Intuity Emulation*** mode, mailbox users are asked to set a voicemail code the first time that they access the mailbox.
- **Voicemail On** *Default = On*
  When on, the mailbox is used by the IP Office to answer the user's unanswered calls or calls when the user's extension returns busy. Note that selecting off does not disable use of the user's mailbox. Messages can still be forward to their mailbox and recordings can be placed in it. The mailbox can also still be accessed to collect messages.
- **Voicemail Help** *Default = Off*
  For voicemail systems running IP Office mailbox mode, this option controls whether users retrieving messages are automatically given an additional prompt *"For help at any time press 8."* If switched off, users can still press 8 for help. For voicemail systems running in Intuity emulation mode, this option has no effect. On those systems the default access greeting always includes the prompt *"For help at any time, press *4"* (*H in the US locale).
- **Voicemail Ringback** *Default = Off*
  When on, if the user has a new message, the voicemail server can call the user's extension whenever the extension changes from off-hook to on-hook. The voicemail server will not ring the extension more than once every 30 seconds.
- **Voicemail E-mail:** *Default = Blank (No voicemail e-mail features)*
  This field is used to set the user or group e-mail address used by the voicemail server for voicemail e-mail operation. When an address is entered, the additional Voicemail E-mail control below are selectable to configure the type of voicemail e-mail service that should be provided.
  - Use of voicemail e-mail requires the voicemail pro server to have been configured to use either a local MAPI e-mail client or an SMTP e-mail server account. See Voicemail E-mail Installation 54.
  - Use of voicemail e-mail for sending (automatic or manual) e-mail messages with wav files attached requires discretion, as a one-minute message creates a wav file of 1MB size.
- **Voicemail E-mail** *Default = Off*
  If an e-mail address is entered for the user or group, the following options become selectable. These control the mode of automatic voicemail e-mail operation provided by the voicemail server whenever the voicemail mailbox receives a new voicemail message.
    - Users can change their voicemail e-mail mode using visual voice. If the voicemail server is set to IP Office mode, user can also change their voicemail e-mail mode through the telephone prompts. The ability to change the voicemail e-mail mode can also be provided in a call flow using a **Personal Options Menu** action or a **Generic** action.
    - If the voicemail server is set to IP Office mode, users can manually forward a message to e-mail.
  - **Off**
    If off, none of the options below are used for automatic voicemail e-mail. Users can also select this mode by dialing ****03*** from their extension.

- **Copy**
  If this mode is selected, each time a new voicemail message is received in the voicemail mailbox, a copy of the message is attached to an e-mail and sent to the e-mail address. There is no mailbox synchronization between the e-mail and voicemail mailboxes. For example reading and deletion of the e-mail message does not affect the message in the voicemail mailbox or the message waiting indication provided for that new message.
- **Forward**
  If this mode is selected, each time a new voicemail message is received in the voicemail mailbox, that message is attached to an e-mail and sent to the e-mail address. No copy of the voicemail message is retained in the voicemail mailbox and their is no message waiting indication. As with Copy, their is no mailbox synchronization between the e-mail and voicemail mailboxes. Users can also select this mode by dialing ***01** from their extension.
  - **UMS Exchange**
    Voicemail Pro 5.0+ supports voicemail e-mail to an Exchange server e-mail account. For users and groups also enabled for UMS Web Services this significantly changes their mailbox operation. The Exchange server inbox is used as their voicemail message store and features such as message waiting indication are set by new messages in that location rather than the voicemail mailbox on the voicemail server. Telephone access to voicemail messages, including Visual Voice access, is redirected to the Exchange server mailbox. See UMS Exchange Server Installation 42 and UMS Exchange.
- **Alert**
  If this mode is selected, each time a new voicemail message is received in the voicemail mailbox, a simple e-mail message is sent to the e-mail address. This is an e-mail message announcing details of the voicemail message but with no copy of the voicemail message attached. Users can also select this mode by dialing ***02** from their extension.

- **UMS Web Services**
  If selected, the user is able to use UMS 32 to access their mailbox. Using the UMS options, messages can be accessed via a web browser, an IMAP compatible e-mail application, or an Exchange server e-mail account. The use this function is subject to licenses.
- **DTMF Breakout**
  When a caller is directed to voicemail to leave a message, they can be given the option to be transferred to a different extension. The greeting message needs to be recorded telling the caller the options available. The extension numbers that they can be transferred to are entered in the fields below. For IP Office 5.0+, these system default values can be set for these numbers and are used unless a different number is set within these user settings.
  - **Reception / Breakout (DTMF 0)**
    The number to which a caller is transferred if they press ***0*** while listening to the mailbox greeting rather than leaving a message (***0** on embedded voicemail).
    - For systems set to Intuity emulation mode, the mailbox user can also access this option when collecting their messages by dialing ***0**.
    - If the mailbox has been reached through a call flow containing a **Leave Mail** action, the option provided when 0 is pressed are:
      - For IP Office mode, the call follows the **Leave Mail** action's ***Failure*** or ***Success*** results connections depending on whether the caller pressed 0 before or after the record tone.
      - For Intuity mode, pressing 0 always follows the **Reception / Breakout (DTMF 0)** setting.
  - **Breakout (DTMF 2)**
    The number to which a caller is transferred if they press ***2*** while listening to the mailbox greeting rather than leaving a message (***2** on embedded voicemail). For pre-5.0 systems this option is not support for Voicemail Pro running in IP Office mailbox mode.
  - **Breakout (DTMF 3)**
    The number to which a caller is transferred if they press ***3*** while listening to the mailbox greeting rather than leaving a message (***3** on embedded voicemail). For pre-5.0 systems this option is not support for Voicemail Pro running in IP Office mailbox mode.

4. Click **OK** to save the voicemail changes for the user.
5. Amend any other user details, then save and merge the configuration changes.

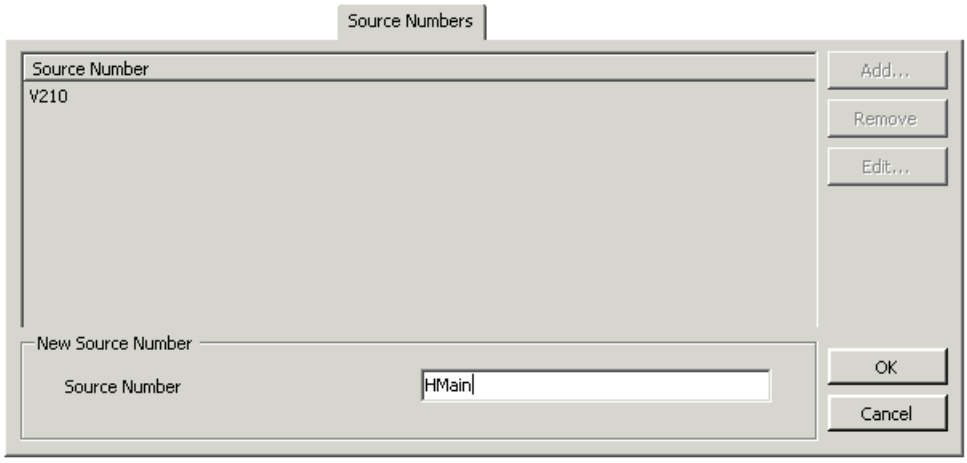
5.4 User Source Numbers

The Source numbers can be changed for individual users in IP Office Manager. The Source Numbers tab gives a list of Dial In Source Numbers. Several of these numbers can relate to voicemail operation. The source number settings that can be used for Voicemail Pro are:

- **V<*Caller's ICLID*>** = Voicemail Trusted Source Access.
  Strings prefixed with a v indicate numbers from which access to the user's mailbox does not require entry of the mailbox's voicemail code.
  - When in Intuity mode users will still have to enter their voicemail code if they use the Messages button on their telephone. However, If they have a button programmed to collect voicemail they can access their mailbox without entering their voicemail code.
- **H<*Group Name*>** = Hunt Group Voicemail Indication.
  Configures the user to receive message waiting indication for new group messages. Enter **H** followed by the group name, for example ***HMain*** for the group Main.
- **P<*Telephone Number*>** = Voicemail Ringback Number.
  This entry sets the destination for callback (outbound alert) calls from voicemail. Enter **P** followed by the telephone number including any external dialing prefix, for example ***P917325559876***. This facility is only available when using Voicemail Pro through which a default Callback or a user specific Callback start point has been configured. This feature is separate from voicemail ringback which alerts the user's own extension.

To add a source number:

1. Open IP Office Manager.
2. In the Navigation pane, click **User** and select the individual user.
3. View the **Source Numbers** tab.
4. Click **Add**.



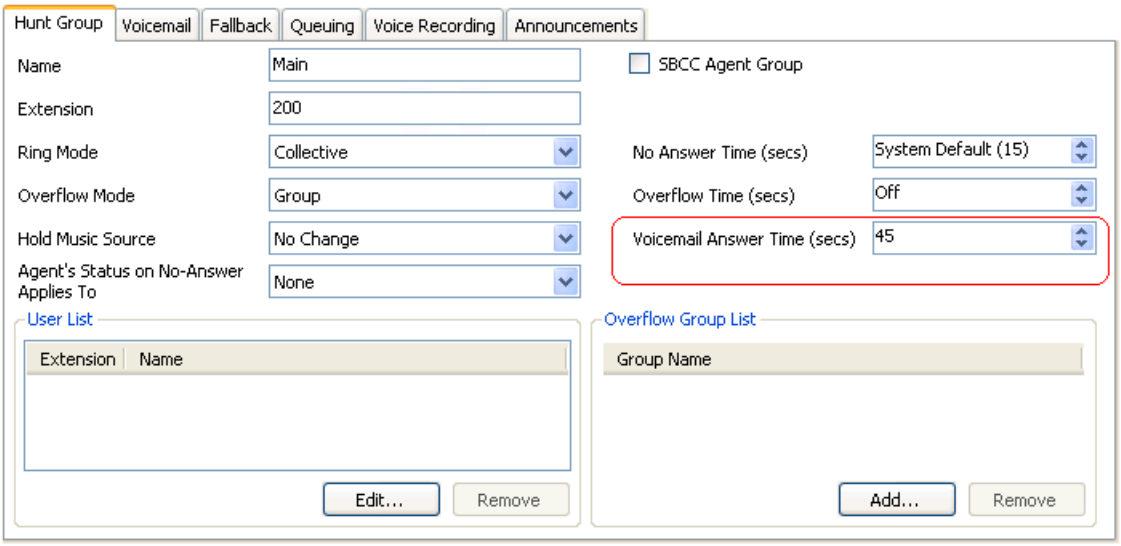
5. Enter the number in the **Source Number** field at the bottom of the window.
6. Click **OK** and save the configuration file.

5.5 Hunt Group Settings

Voicemail can be configured for each hunt group on the IP Office system. This section looks at the basic voicemail settings.

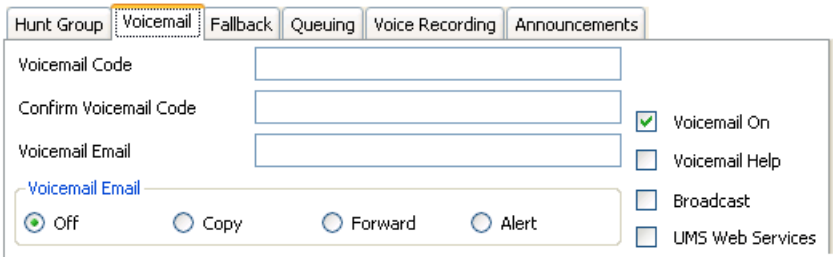
Voicemail Answer Time

For IP Office 4.0+, the condition under which calls targeted to a hunt group go to voicemail has been changed to a timeout. For calls waiting to be answered, once this timeout expires the call is redirected to voicemail regardless of where it is in the hunt group.



Hunt Group Settings

1. Open IP Office Manager.
2. In the Navigation pane, click  **Hunt Group** and select the hunt group.
3. Select the **Voicemail** tab.



- **Voicemail Code / Confirm Voicemail Code**
  Enter a voicemail code between 1-15 digits in the **Voicemail Code** field. This is required when users retrieve voicemail messages for the hunt group remotely, for example from an extension that is not a member of the hunt group or from an external telephone.
- **Voicemail E-mail:** *Default = Blank (No voicemail e-mail features)*
  This field is used to set the user or group e-mail address used by the voicemail server for voicemail e-mail operation. When an address is entered, the additional Voicemail E-mail control below are selectable to configure the type of voicemail e-mail service that should be provided.
  - Use of voicemail e-mail requires the voicemail pro server to have been configured to use either a local MAPI e-mail client or an SMTP e-mail server account. See Voicemail E-mail Installation 54.
  - Use of voicemail e-mail for sending (automatic or manual) e-mail messages with wav files attached requires discretion, as a one-minute message creates a wav file of 1MB size.
- **Voicemail E-mail** *Default = Off*
  If an e-mail address is entered for the user or group, the following options become selectable. These control the mode of automatic voicemail e-mail operation provided by the voicemail server whenever the voicemail mailbox receives a new voicemail message.
  - Users can change their voicemail e-mail mode using visual voice. If the voicemail server is set to IP Office mode, user can also change their voicemail e-mail mode through the telephone prompts. The ability to change the voicemail e-mail mode can also be provided in a call flow using a **Personal Options Menu** action or a **Generic** action.
  - If the voicemail server is set to IP Office mode, users can manually forward a message to e-mail.

- **Off**
  If off, none of the options below are used for automatic voicemail e-mail. Users can also select this mode by dialing ***03** from their extension.
- **Copy**
  If this mode is selected, each time a new voicemail message is received in the voicemail mailbox, a copy of the message is attached to an e-mail and sent to the e-mail address. There is no mailbox synchronization between the e-mail and voicemail mailboxes. For example reading and deletion of the e-mail message does not affect the message in the voicemail mailbox or the message waiting indication provided for that new message.
- **Forward**
  If this mode is selected, each time a new voicemail message is received in the voicemail mailbox, that message is attached to an e-mail and sent to the e-mail address. No copy of the voicemail message is retained in the voicemail mailbox and their is no message waiting indication. As with Copy, their is no mailbox synchronization between the e-mail and voicemail mailboxes. Users can also select this mode by dialing ***01** from their extension.
  - **UMS Exchange**
    Voicemail Pro 5.0+ supports voicemail e-mail to an Exchange server e-mail account. For users and groups also enabled for UMS Web Services this significantly changes their mailbox operation. The Exchange server inbox is used as their voicemail message store and features such as message waiting indication are set by new messages in that location rather than the voicemail mailbox on the voicemail server. Telephone access to voicemail messages, including Visual Voice access, is redirected to the Exchange server mailbox. See UMS Exchange Server Installation 42 and UMS Exchange.
- **Alert**
  If this mode is selected, each time a new voicemail message is received in the voicemail mailbox, a simple e-mail message is sent to the e-mail address. This is an e-mail message announcing details of the voicemail message but with no copy of the voicemail message attached. Users can also select this mode by dialing ***02** from their extension.

- **Voicemail On** *Default = On*
  When on, the mailbox is used by the IP Office to answer the user's unanswered calls or calls when the user's extension returns busy. Note that selecting off does not disable use of the user's mailbox. Messages can still be forward to their mailbox and recordings can be placed in it. The mailbox can also still be accessed to collect messages.
- **Voicemail Help** *Default = Off*
  For voicemail systems running IP Office mailbox mode, this option controls whether users retrieving messages are automatically given an additional prompt *"For help at any time press 8."* If switched off, users can still press 8 for help. For voicemail systems running in Intuity emulation mode, this option has no effect. On those systems the default access greeting always includes the prompt *"For help at any time, press *4"* (*H in the US locale).
- **Broadcast**
  Select the option **Broadcast** if you want any voicemail messages left for the hunt group to be forwarded to the mailboxes of the individual group members. The original message in the hunt group mailbox is deleted after being broadcast.
- **UMS Web Service** *(IP Office 5.0+)*
  If selected, the hunt group mailbox can be accessing using UMS 32 via a web browser or an IMAP compatible e-mail application.

4. Click **OK** and save the configuration.

5.6 Voicemail Channel Reservations

By default inbound calls routed from IP Office to voicemail are able to use any available voicemail channels, up to the limit of the number of licensed channels, regardless of how many calls of the same type are already in progress. However, if required, channels can be reserved for different types of inbound calls to the voicemail server.

Voicemail channel reservations can be made for:

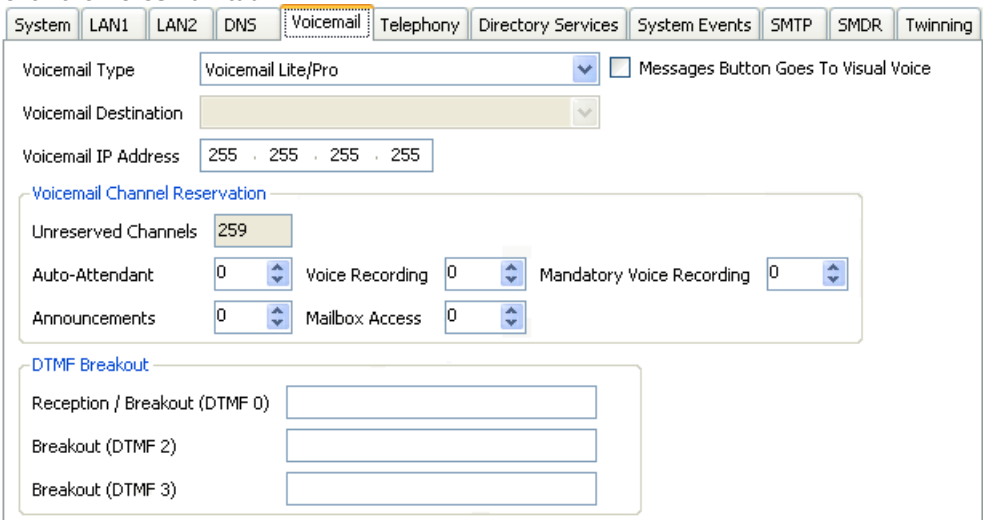
- **Auto Attendant**
- **Announcements**
- **Voice recording**
- **Mailbox access**
- **Mandatory voice recording**

It is worth checking the voicemail channel reservations if there are problems. If insufficient voicemail channels are available:

- Internal calls to an auto attendant are queued. The call will queue until a resource becomes available.
- Announcements are not heard by the caller, but the call is routed correctly.
- Manual voice recording is activated but no recording is made. The call will continue.
- Users are placed in a queue when trying to access their mailbox access.
- A user with mandatory recording on outgoing calls (internal and external) gets a busy tone.
- A call on a line with mandatory recording set will be barred.

To change voicemail channel reservations:

1. Open IP Office Manager and the load the configuration.
2. In the Navigation pane click **System** and select the system.
3. Click the **Voicemail** tab.



4. Amend the channel reservations as required. By default the values are 0.

To view the utilization of voicemail channels:

1. Open the System Status Application.
2. Click **Resources**. The System Resources summary is displayed. The following details are displayed:
   - The number of voicemail channels available.
   - The number of channels in use.
   - Congestion information

Channel Restrictions

- The Voicemail Pro server has restrictions on the number of channels it can use for different types of outgoing calls that it can make. These limits are separate for each of the call types. When a limit is reached, further calls of that type are delayed until one of the existing calls is completed. These limitations are not controlled by Voicemail Channel Reservation 93 settings.
  - Outcalling can use up to 5 channels at any time.
  - Conference center invitation calls can use up to 5 channels at any time.
  - Callback calls can use up to 2 channels at any time.
  - Alarm calls can use up to 2 channels at any time.

Chapter 6.
System Preferences

6. System Preferences

A range of voicemail server settings can be set through the Voicemail Pro client.

To change the Voicemail Pro Preferences

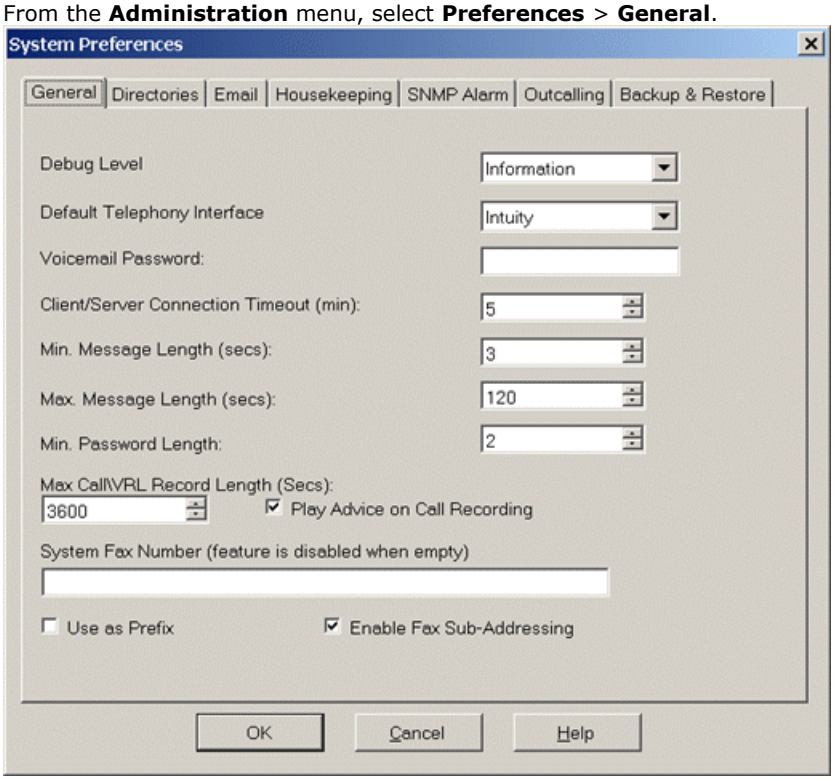
1. Click the **Preferences** icon and then choose **General** or **VPNM**. Alternatively, from the **Administration** menu, select **Preferences** and then choose **General** or **VPNM**.
2. Select the System Preferences tab required.
    - **General** 97
      General voicemail server settings.
    - **Directories** 99
      Set the folder paths for different file locations.
    - **Email** 100
      Select the e-mail mode (MAPI or SMTP) used by the voicemail server for its e-mail functions and configure various settings for the selected mode.
    - **Housekeeping** 105
      Set the times for automatic deletion of different types of messages. Also, set the default playback order.
    - **SNMP Alarm** 106
      Set the criteria which will cause the voicemail server to send alarms via the IP Office.
    - **Outcalling** 107
      Set the default times for outcalling operation and the frequency of outcalling retires.
    - **Voicemail Recording** 107
      Set the configurations for the SFTP connection to the VRL directory.
    - **Backup & Restore** 109
      Set the configurations for an immediate backup or the configurations and schedules for the daily, weekly, and monthly backups.
    - **VPNM** 110
      If VPNM is installed and licensed, this tab is available to set the locations of the remote VPNM servers and the mailbox users on those servers.

6.1 General

Although the default IP Office configuration settings enable voicemail to start operating almost immediately, as soon as a voicemail server is running on the LAN, there are some general system preferences that you can set or change.

To set general system preferences

1. Open the Voicemail Pro Client application and connect to the voicemail server.
2. From the **Administration** menu, select **Preferences** > **General**.



- **Debug Level:** *Default = Information*
  Use this field to set the level of information that the server should output for logging, if required.
  Default Telephony Interface: *Default = Intuity*
  Use this field to select the mailbox operation mode for all mailboxes. The available options are ***IP Office*** mode and ***Intuity*** emulation mode.
- **Voicemail Password:** *Default = Blank*
  A voicemail password is optional for the voicemail server. If you set a password here, it must match the **Voicemail Password** configured in the IP Office security settings. See Identifying the Voicemail Server Computer 86.
- **Client/Server Connection Timeout (mins):** *Default = 5 minutes.*
  As the voicemail server supports only one Voicemail Pro client to be connected at a time, use this field to set a timeout period for an inactive client to be logged out from the voicemail server automatically.
- **Min. Message Length (secs):** *Default = 0 seconds (in IP Office mode) and 3 seconds (in Intuity mode).*
  Use this field to set a restriction on the minimum length for a message. The minimum value that you can set is 0 seconds, and the maximum value is 10 seconds. Messages that are of shorter length than the set minimum length are deleted immediately. In IP Office mode, this field is unavailable.
- **Max. Message Length (secs):** *Default = 120 seconds.*
  Use this field to set a restriction on the maximum length for a message. The maximum value that you can set is 3600 seconds (60 minutes). A message with the message length of 1 minute occupies approximately 1MB of disk space.
- **Min. Password Length:** *Default = 0 (in IP Office mode) and 2 (in Intuity mode).*
  Use this field to set a restriction on the minimum length of a mailbox password. The minimum value that you can set is 0 in IP Office mailbox mode and 2 in Intuity emulation mode. The maximum value is 15.
  Note: The **Min. Password Length** field is unavailable if the Voicemail Pro client version 8.1 is connected to a Voicemail Pro server version 8.0 or earlier. Also note that in a centralized voicemail setup with distributed voicemail servers, the field is unavailable on all the distributed voicemail servers, as the password length for mailboxes is controlled by central voicemail server.
- **Max. Call\VRL Record Length (secs):** *Default =3600 seconds.*
  Use this field to set a restriction on the maximum recording length for calls. The default and maximum length is 3600 seconds (60 minutes).
- **Play Advice on Call Recording:** *Default = On*
  Use this check box to set whether to play an advice warning to the callers when their calls start getting recorded. It is a legal requirement in some countries to inform the callers before recording their calls, and so confirm before you clear this check box.

- **System Fax Number:** *Default = Blank*
  Use this field to set the number of the fax machine to which all incoming faxes are to be directed. If you are using a fax board, the number that you enter must match the extension number that is connected to the fax board of the fax server computer.
  - Intuity mailbox owners have the additional option to define their own personal fax number instead of the system fax number. As the system administrator, you still need to set a system fax number to enable mailbox owners to override it with their preferred personal fax number. Incoming calls are directed to Voicemail Pro and then Voicemail Pro redirects fax calls to the mailbox owner's personal fax number, if one has been set. For details, mailbox owners can refer *Avaya IP Office Using Voicemail Pro in Intuity Mode* (15-601130).
  - If your fax system requires prefix addressing, for example the C3000 fax server, do not type a fax number in the **System Fax Number** box. Instead, type the number to use as a prefix so that a fax message can be identified and forwarded to the extension number of the intended recipient. For example, if the prefix is 55, a fax message for extension 201 would have the prefix of 55 automatically added so that the complete number becomes 55201.
- **System Fax Number**
  By default, fax detection is not enabled when Voicemail Pro is first installed. When fax detection is enabled, any fax calls that are left in a voicemail mailbox, are redirected to this system fax number.
  - **Use as a Prefix**
    If your fax system does not use prefix addressing, leave this box unchecked. For this feature to work, you also need to set up a short code.
  - **Enable Fax Sub-Addressing**
    Most fax servers perform fax forwarding based on DTMF signaling received with the fax call. Check the **Enable Fax Sub-Addressing** box so that the DTMF signal is passed to the fax server after the call has been answered so that the fax can be forwarded to the e-mail address of the intended recipient.

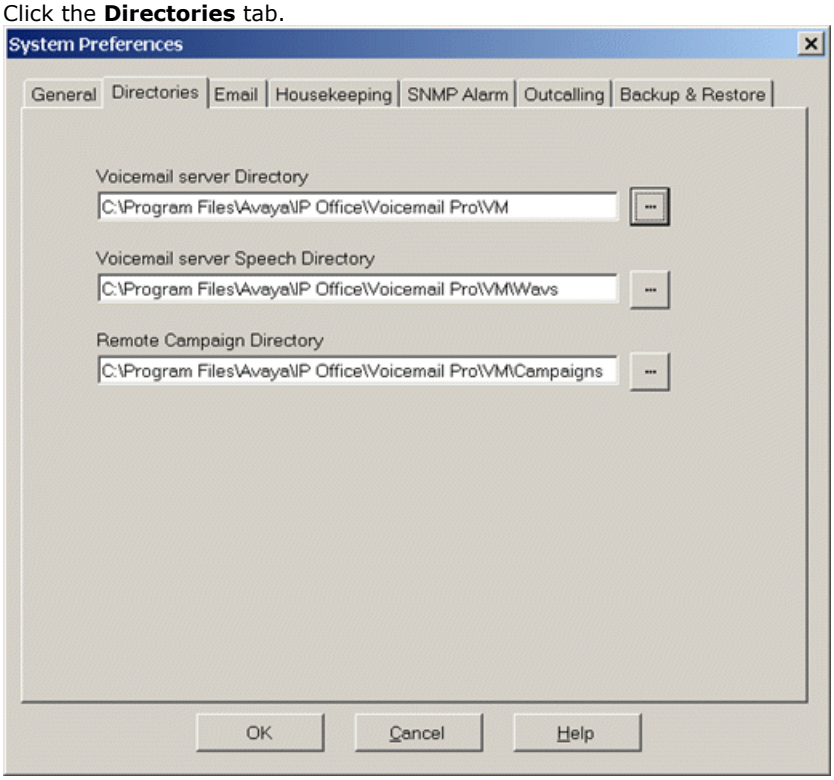
3. Click **OK**.
4. Click  **Save and Make Live** and select **Yes**.

6.2 Directories

When Voicemail Pro is installed some default folder locations are used. You can change these if required.

To set the location of Voicemail system folders

1. Open the Voicemail Pro Client application and connect to the voicemail server.
2. From the **Administration** menu, select **Preferences** > **General**.
3. Click the **Directories** tab.



- **Voicemail Server Directory**
  The path to the folder where the voicemail server program is to be stored. This is the folder where the file ***Root.vmp*** is saved when the **Save & Make Live** option is used.
- **Voicemail Server Speech Directory**
  The path to the folder where the libraries of speech prompts are to be stored.
- **Remote Campaign Directory**
  The path to the folder where the campaign files are to be stored.

4. Click **OK**.
5. Click **Save and Make Live** and select **Yes**.

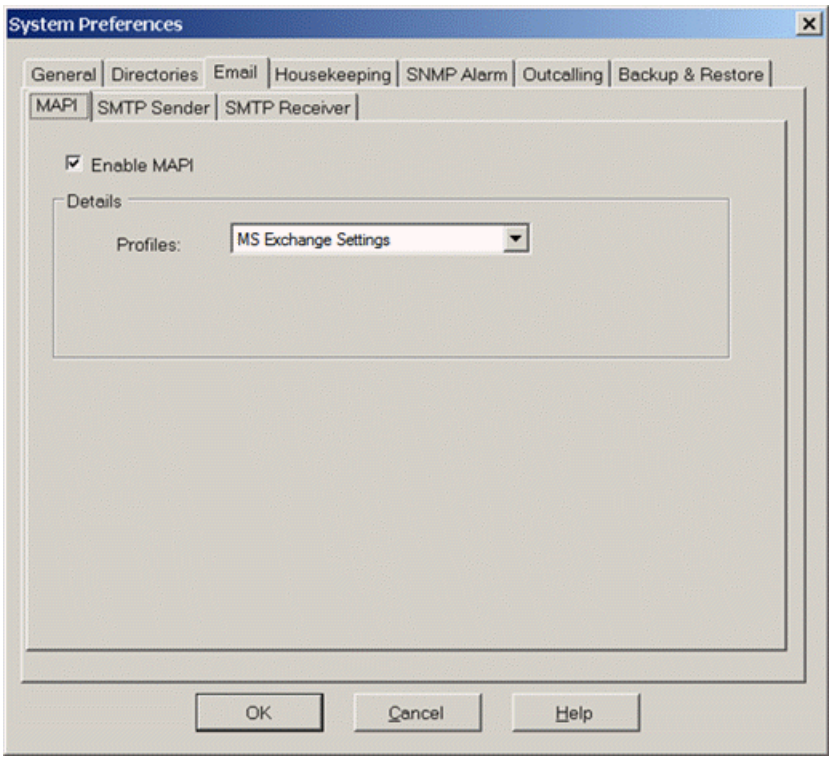
6.3 Email

The **Email** tab is used to configure which e-mail mode (MAPI or SMTP) the voicemail server should use and the settings for that mode.

6.3.1 MAPI

This form is used to configure MAPI settings for use by the voicemail server.

MAPI



- **Enable MAPI**
  Selecting this option will switch the voicemail server to using MAPI for its e-mail options rather than SMTP.
- **Profile**
  This is used to select the MAPI e-mail account the voicemail server should use to provide visibility to the e-mail account mailboxes for which it requires access. The profile must exist within the MAPI e-mail client on the server computer and must be useable by the Windows account under which the Voicemail Pro service is running.

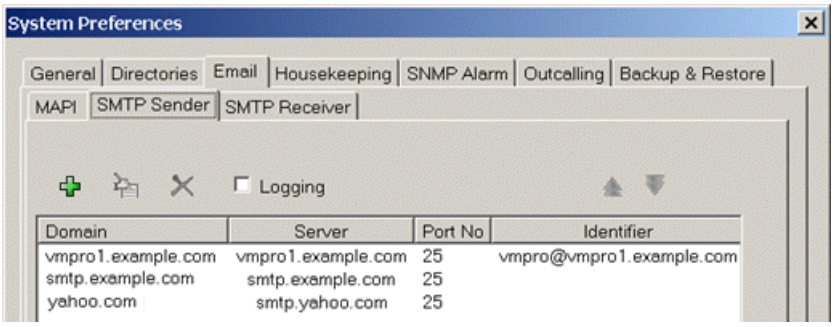
6.3.2 SMTP Sender

These settings are used to configure the SMTP server and server account that the voicemail server uses for sending e-mails using SMTP.

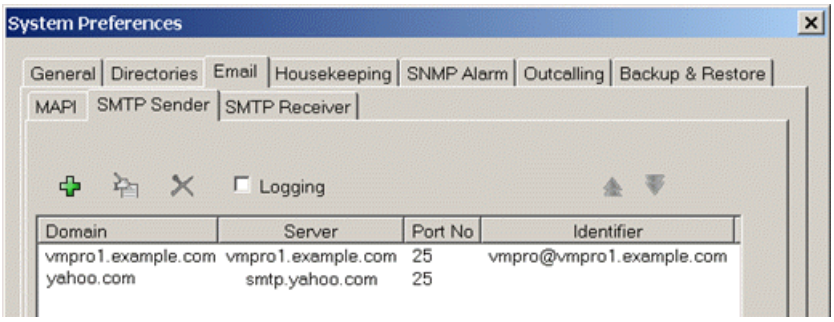
Multiple servers can be configured. The first entry specifies the default SMTP server used for sending e-mails if there is no other entry matching the domain specified in the e-mail destination address. Additional servers can be added when different settings are required for sending e-mails to specific domains. For example, the default can be configured for the customer's internal network exchange server with additional entries added for e-mails to external e-mail domain addresses such as yahoo.com.

- **Messaging Between Voicemail Servers**
  VPNM, distributed voicemail servers and primary/backup voicemail servers all use SMTP to exchange information and messages between the voicemail servers. When that is the case the first entry in the **SMTP Sender** list must be the one used and needs to be configured for that service with the domain and server setting both matching the IP address or fully qualified domain of the voicemail server.

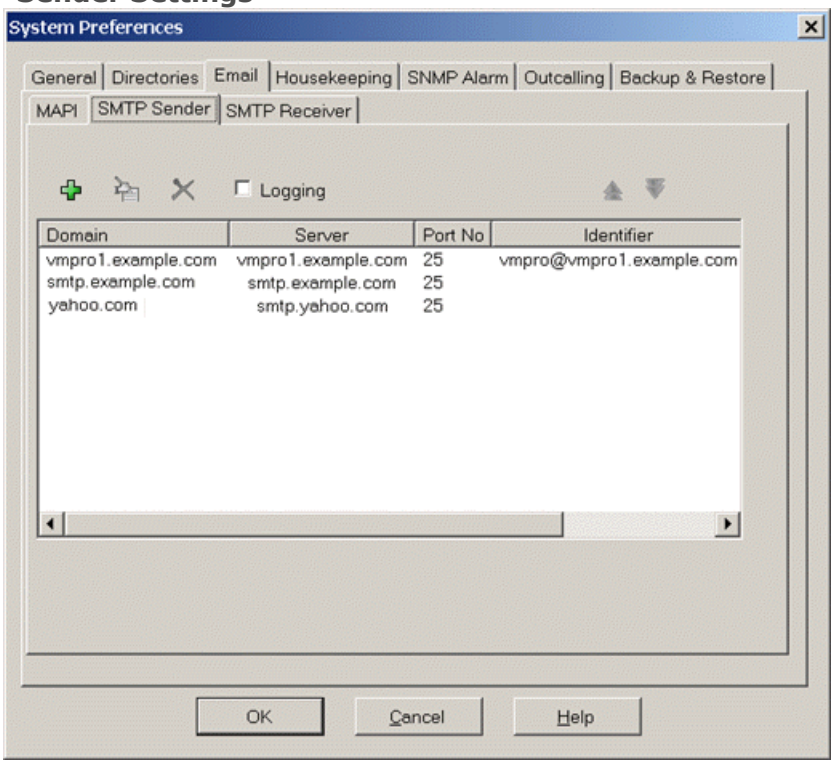
In the example below, the first entry is being used for messages to other voicemail servers. Its own address is used as both the domain and server settings as an SMTP service on the same server as the voicemail service is used (for example, IIS SMTP on the Windows server). The next entry is used for other e-mails that use the customer's general e-mail domain address with the server set to the customers e-mail server. A third entry has been added to send some e-mails generated by E-mail Actions in call flows direct to an external e-mail service.



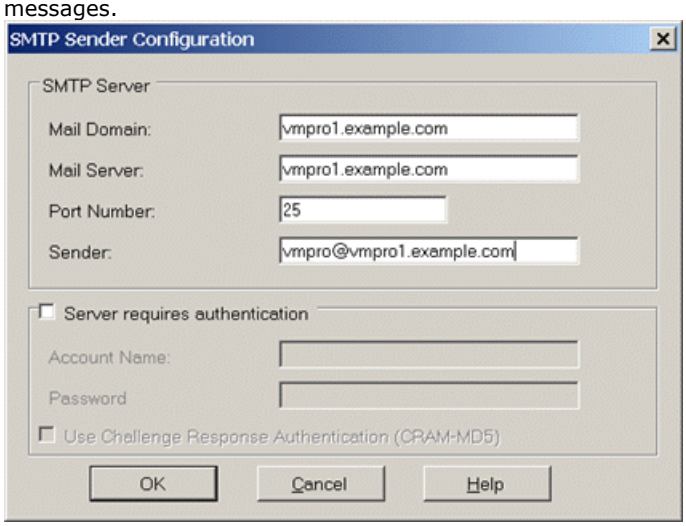
- The first two entries in the example above can be combined. Voicemail server to server synchronization uses the **Domain** setting only whereas other e-mail services use the **Server** address and other setting.



SMTP Sender Settings



- **Logging**
  If selected, SMTP logging [132] by the server is enabled.
- **Servers**
  This section is used to enter details of the SMTP server or servers to which the voicemail server sends its messages.



To add a server, click on the . icon. To edit the server, click on the icon. To delete a server entry, click on .

- **Mail Domain**
  This field is used differently depending on whether it is the first entry in the list or not:
  - **For the first server entry in the list:**
    This is the default outgoing e-mail settings. It also sets the mail destination domain on which the voicemail server filters incoming messages (see below) and so is repeated on the **SMTP Receiver** tab.
    - **Messaging Between Voicemail Servers**
      For messaging between voicemail servers, the first entry in the SMTP Sender list must be the one configured and used. Each server uses the SMTP server service on the same server computer as the voicemail service. For example a Windows based servers uses the SMTP e-mail provided by the IIS on the same server. The voicemail service also uses the domain set to filter incoming SMTP mails received by the SMTP server. For this to work, the domain entered should be the fully qualified name of the server on which the voicemail server is running, for example ***vmpro1.example.com***. Any incoming messages where the recipient mail domain is not exactly the same as the specified domain are ignored. The recipient can either by ***vmsyncmaster***, ***vmsyncslave*** or the name or extension of a mailbox on the Voicemail Pro server, for example ***Extn201@vmprocentral.example.com*** or ***201@vmprocentral.example.com***.
  - **For subsequent entries:**
    The domain specifies that these settings should be used for e-mails sent to the matching domain. The entry must be a fully qualified name resolvable by DNS or an IP address.
- **Server**
  This specifies the IP address or fully qualified domain name of the SMTP server to which messages are sent.
  - **For the first server entry in the list:**
    Where messaging between voicemail servers is being used (central, backup and or distributed servers), the first entry is used and will match the domain set above.
  - **For subsequent entries:**
    It will be the address of the e-mail server that will handle e-mails for recipients other than another voicemail server on the network.
- **Port Number**
  This is port to which messages are sent, usually 25.
- **Sender** (**Identifier**)
  Note that some servers will only accept e-mails from a specific sender or sender domain. If left blank, the voicemail server will insert a sender using either the e-mail address set for the voicemail mailbox user if set or otherwise using the best matching name it can resolve from the IP Office.
- **Server Requires Authentication**
  This check box indicates whether the connection to send SMTP messages to the mail server requires authentication with that server. The authentication will typically be to the name and password of a mailbox account configured on that server.
  - **Account Name**
    Sets the name to use for authentication.
  - **Password**
    Set the password to use for authentication.
  - **User Challenge Response Authentication (Cram MD5)**
    If this check box is selected, the name and password are sent using Cram MD5.

Note:
If you are using Voicemail Pro in a distributed environment, a distributed server delivers a recorded message to the central voicemail server on completion of the recording. However, the presentation to the voicemail server for message waiting indication (MWI) and access via telephone might be delayed because of the internal processing of the message and the network latency. The delay might be up to 2 minutes in high traffic situations.

6.3.3 SMTP Receiver

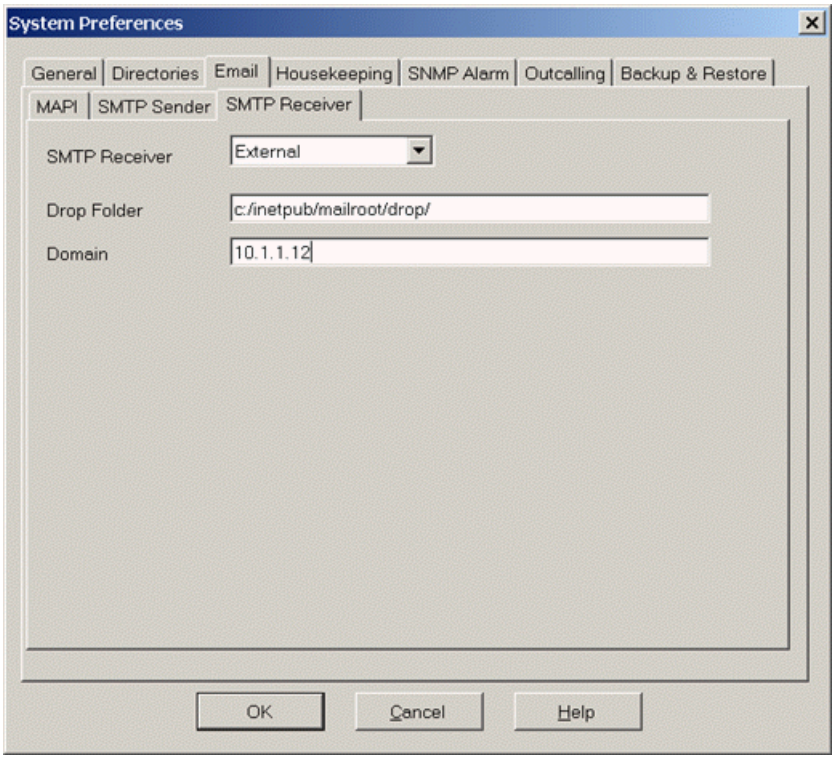
This tab is used to set where the voicemail server checks for incoming SMTP messages. The **SMTP Receiver** setting can be set to either ***Internal*** or ***External***.

- **Internal** 104
  Use this option for voicemail servers running on the IP Office Application Server server.
- **External** 104
  Use this option when the voicemail server is on a server where is co-exists with a third-party SMTP application, for example an IIS server with SMTP enabled.

External

The **External** setting should be used when the voicemail server should check the mail drop folder on a local SMTP server for SMTP e-mail messages. For example, when there is an IIS server with SMTP enabled on the same server computer as the Voicemail Pro server.

- **Distributed or Primary/Backup Voicemail**
  This is the option that should be used if the voicemail server is a Windows-based server in a network where distributed voicemail servers are being used or if the voicemail server is a server in a primary/backup voicemail server pairing.



- **Port**
  This is the port on which the server receives incoming SMTP e-mails.
- **Domain**
  This is the domain destination address for which the server will accept incoming e-mails. Note that it matches the domain set by the first server entry in the **SMTP Sender** 101 tab.
  - **Messaging Between Voicemail Servers**
    For messaging between voicemail servers, the first entry in the SMTP Sender list must be the one configured and used. Each server uses the SMTP server service on the same server computer as the voicemail service. For example a Windows based servers uses the SMTP e-mail provided by the IIS on the same server. The voicemail service also uses the domain set to filter incoming SMTP mails received by the SMTP server. For this to work, the domain entered should be the fully qualified name of the server on which the voicemail server is running, for example ***vmpro1.example.com***. Any incoming messages where the recipient mail domain is not exactly the same as the specified domain are ignored. The recipient can either by ***vmsyncmaster***, ***vmsyncslave*** or the name or extension of a mailbox on the Voicemail Pro server, for example ***Extn201@vmprocentral.example.com*** or ***201@vmprocentral.example.com***.

Note:
If you are using Voicemail Pro in a distributed environment, a distributed server delivers a recorded message to the central voicemail server on completion of the recording. However, the presentation to the voicemail server for message waiting indication (MWI) and access via telephone might be delayed because of the internal processing of the message and the network latency. The delay might be up to 2 minutes in high traffic situations.

6.4 Housekeeping

Use the **Housekeeping** tab to:

- Set the duration after which the Voicemail Pro server deletes messages and recordings automatically.
- Set the default playback order of messages.

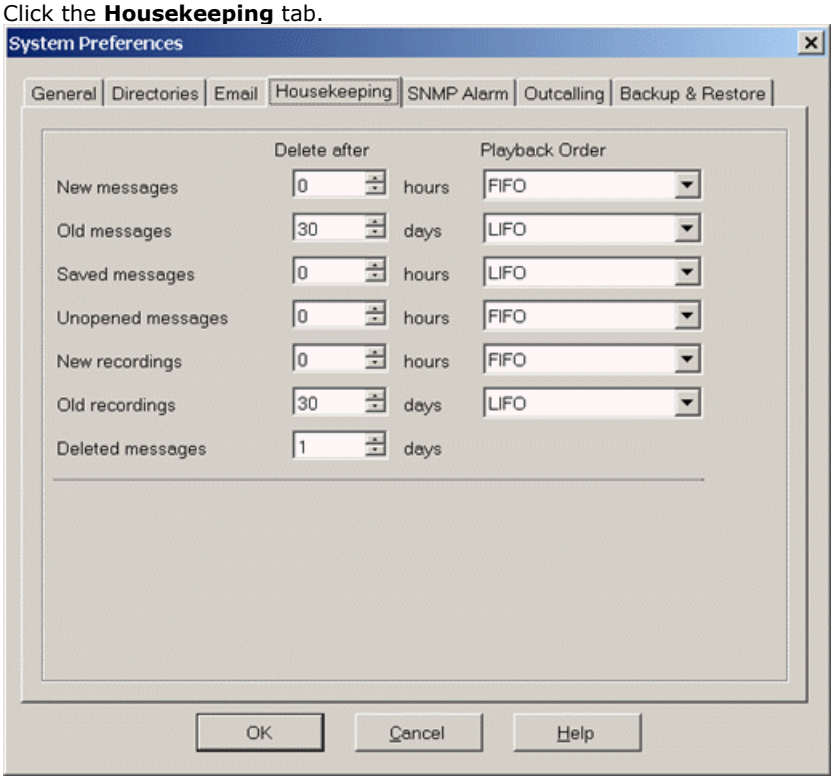
The following are the different categories of messages that the housekeeping settings apply to:

- **New messages**
  This status is applied to messages where neither the header nor the message content has been played.
- **Old messages**
  This status is applied to messages where the user has played the message content but has not marked the message as saved.
- **Saved messages**
  This status is applied to messages that have been marked as saved by the user.
- **Unopened messages**
  This status is used for messages where, in Intuity emulation mode, the user has played the message header but has not played the message content.
- **New recordings**
  This status is used for recordings that have not been played.
- **Old recordings**
  This status is used for recordings that have been played.
- **Deleted messages**
  This status is used for messages that have been marked as deleted through mailbox access.

Note: The housekeeping deletion settings do not apply to the messages stored on an Exchange server.

To set the housekeeping settings

1. Open the Voicemail Pro Client application and connect to the voicemail server.
2. From the **Administration** menu, select **Preferences** > **General**.
3. Click the **Housekeeping** tab.



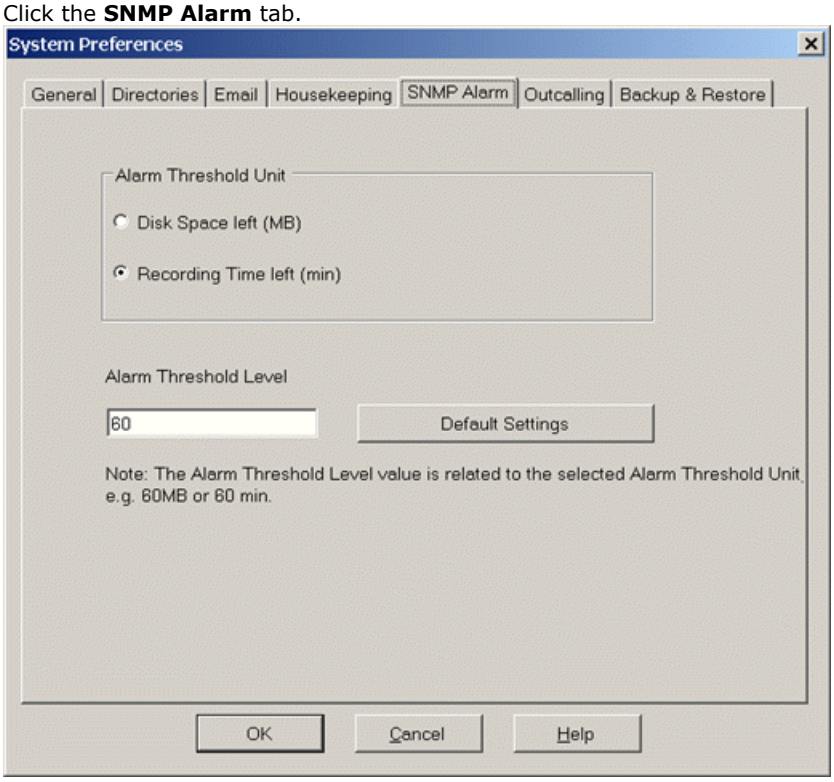
4. Under **Delete after**, set the time, in hours, after which you want the respective messages to be deleted automatically. A value of ***0*** disables automatic deletion. The actual deletion is performed during the next idle period, that is, when there are no calls to or from the voicemail server.
5. Under **Playback Order**, set the order of playback for the respective message types. The available options are First in-First out (***FIFO***) and Last in-First out (***LIFO***). ***FIFO*** is the default option.
6. Click **OK**.
7. Click **Save and Make Live** and select **Yes**.

6.5 SNMP Alarm

The IP Office system can be configured to generate alarms. These alarms can be sent from the IP Office using SNMP, SMTP e-mail, or Syslog alarm formats. This tab is used to set the levels at which the voicemail server will indicate to the IP Office to send an alarm.

To set SNMP alarms

1. Open the Voicemail Pro Client application and connect to the voicemail server.
2. From the **Administration** menu, select **Preferences** > **General**.
3. Click the **SNMP Alarm** tab.



4. Under **Alarm Threshold Unit**, select either **Disk Space Left (MB)** or **Recording Time left (minutes)**.
5. In the **Alarm Threshold Level** field, enter the number of units (minutes or MB) at which SNMP alarms are to be triggered. The minimum value that you can enter is 11.
   In addition to the alarm that triggers at the threshold value, the following SNMP alarms are set automatically:
   - **Space OK Alarm**
     This alarm is triggered when the amount of available space returns to above a level set at *Alarm Threshold Level plus 30*.
   - **Critical Alarm**
     This alarm is set at 30. If the Alarm Threshold Level is set at less than 40, the critical alarm is set at *Alarm Threshold Level minus 10*. Note that the critical alarm value decreases if you decrease the Alarm Threshold value, but the critical alarm value does not increase if you increase the Alarm Threshold value. So, the critical alarm value keeps on decreasing and remains set at the least value that it takes. To reset the critical alarm back to 30, click **Default Settings**.
6. To return to the default alarm settings, click **Default Settings**. The Alarm Threshold Level is reset to 60. The Space OK level is reset to 90. The Critical Alarm level is reset to 30.
7. Click **OK**.
8. Click **Save and Make Live** and select **Yes**.

6.6 Outcalling

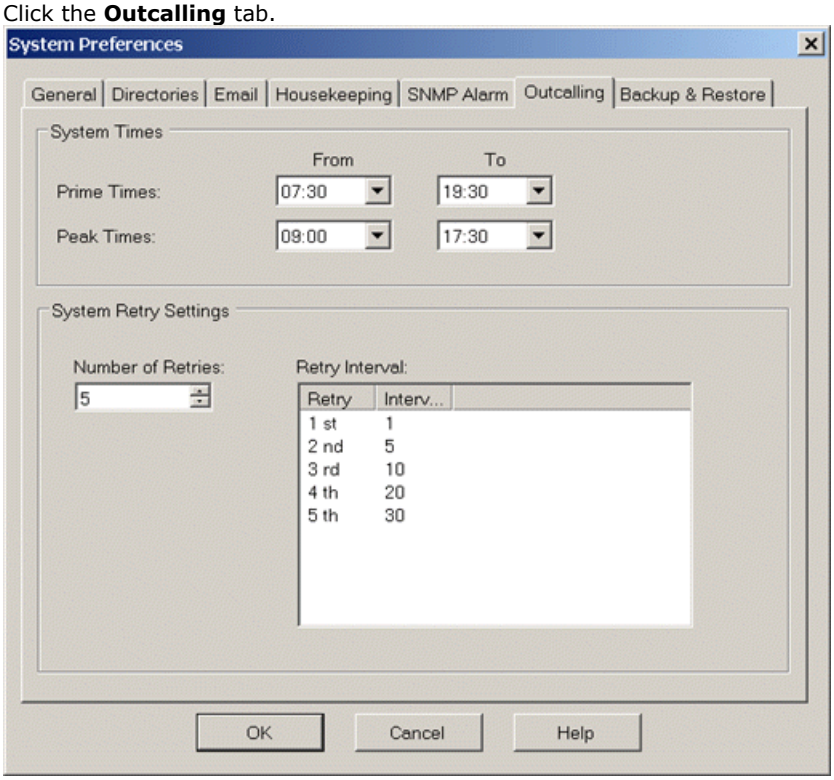
The outcalling preferences in Voicemail Pro are defaults for global operation. Mailbox owners can configure their own outcalling options from their telephone, for example, create their own time profile.

For details on configuring outcalling, see *Avaya IP Office Using Voicemail Pro in Intuity Mode* (15-601130) and *Avaya IP Office Phone Manager User Guide* (15-600988).

A timeout value can also be set by a user. This is the duration for which outcalling will attempt to connect to a number before giving up.

To set the global outcalling preferences

1. Open the Voicemail Pro Client application and connect to the voicemail server.
2. From the **Administration** menu, select **Preferences** > **General**.
3. Click the **Outcalling** tab.



4. Select the times that outcalling is active in the **System Times** section.
   - **Prime Times**
     The time period that outcalling is to be active as default for the system.
   - **Peak Times**
     The busiest working hours.
5. Set the retry settings in the **System Retry Settings** section.
   - The **Number of Retries** can be between 0 and 10. If the message is not collected after the last retry, no notification is sent until another new message is delivered in the user's mailbox.
   - The **Retry Interval** for each successive retry. The interval is the length of time between each attempt to connect to the target number again. The 6th to 10th retries use the default retry interval.
   - Double-click a selected retry time to edit the interval between retries. The New interval number window opens where the length of time between each attempt to ring the target number can be changed. Click **OK** to save the change and return to the System Preferences window.
6. Click **OK**.
7. Click **Save and Make Live** and select **Yes**.

6.7 Voicemail Recording

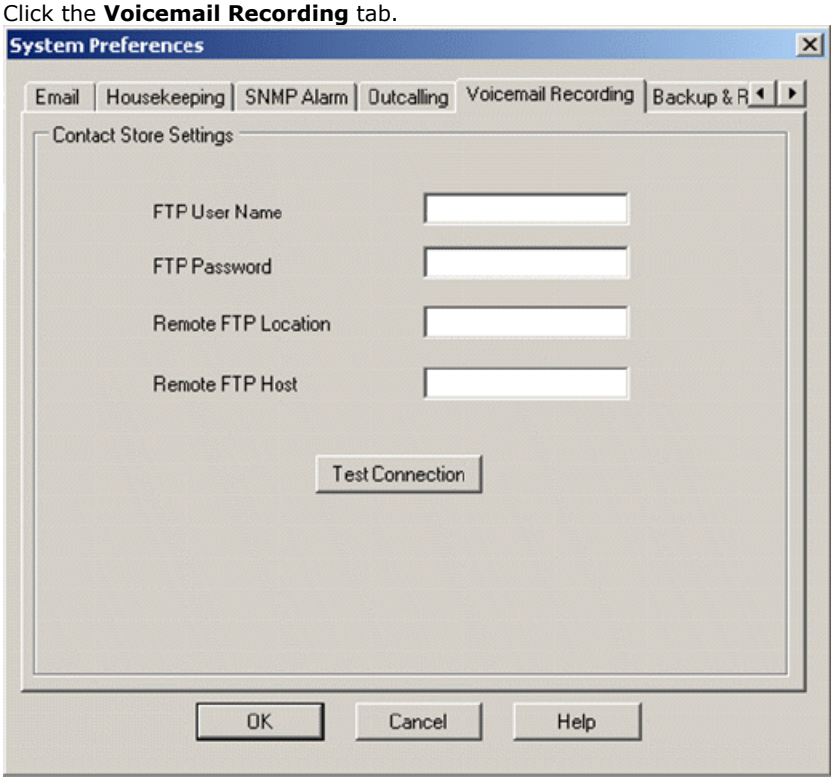
The **Voicemail Recording** tab is displayed only if you connect to a Linux-based voicemail server.

On a Linux-based voicemail server, use the **Voicemail Recording** tab to configure SFTP connection on voicemail server to transfer recordings to the Voice Recording Library (VRL) application IP Office ContactStore.

To configure SFTP connection to the VRL directory

1. Open the Voicemail Pro Client application and connect to the voicemail server.
2. On the **Administration** menu, click **Preferences > General**.

3. Click the **Voicemail Recording** tab.



4. Enter the required details in the respective fields.
   Note: Enter the absolute FTP path of the VRL directory in **Remote FTP Location**.
5. Click **Test Connection** to verify the connectivity of the voicemail server to the remote SFTP server. If the connection fails, see SFTP Host Key Verification 132.
6. Click **OK**.
7. Click **Save and Make Live** and select **Yes**.

6.8 Backup & Restore

Using the **Backup & Restore** tab, you can:

1. View the details of previous backups.

1. Take an immediate backup of the voicemail data and settings.

2. Schedule backups for the voicemail data and settings.

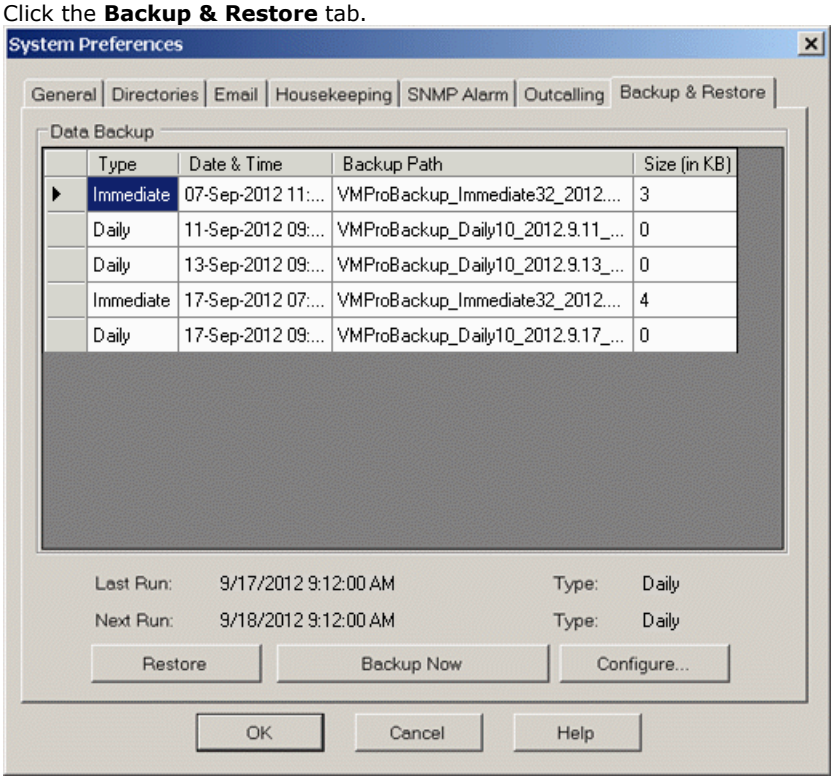
3. Restore the voicemail data and settings from a backup, on a Windows-based voicemail server.

To view, restore, or schedule backups

1. Open the Voicemail Pro Client application and connect to the voicemail server.

2. On the **Administration** menu, click **Preferences > General**.

3. Click the **Backup & Restore** tab.



- The **Data Backup** section displays the following details of the previous backups:
  - **Type**: Immediate, Daily, Weekly, or Monthly.
  - **Date & Time**
  - **Backup Path**
  - **Size**

  Note: The list includes only those backups that are saved on the local computer. To refresh the list, close the **System Preferences** dialog box and open the dialog box again.

- **Last Run** & **Type**
  The time and type of the previous backup.

- **Next Run** & **Type**
  The time and type of the backup that is scheduled to run next.

Note: If a backup is already in progress, the **Next Run** field displays **Active**.

- **Restore**
  Click **Restore** to restore the voicemail data and settings from a backup. For details, see *Avaya IP Office Administering Voicemail Pro* (15-601063).

- **Backup Now**
  Click **Backup Now** to take an immediate backup of the voicemail data and settings. For details, see *Avaya IP Office Administering Voicemail Pro* (15-601063).

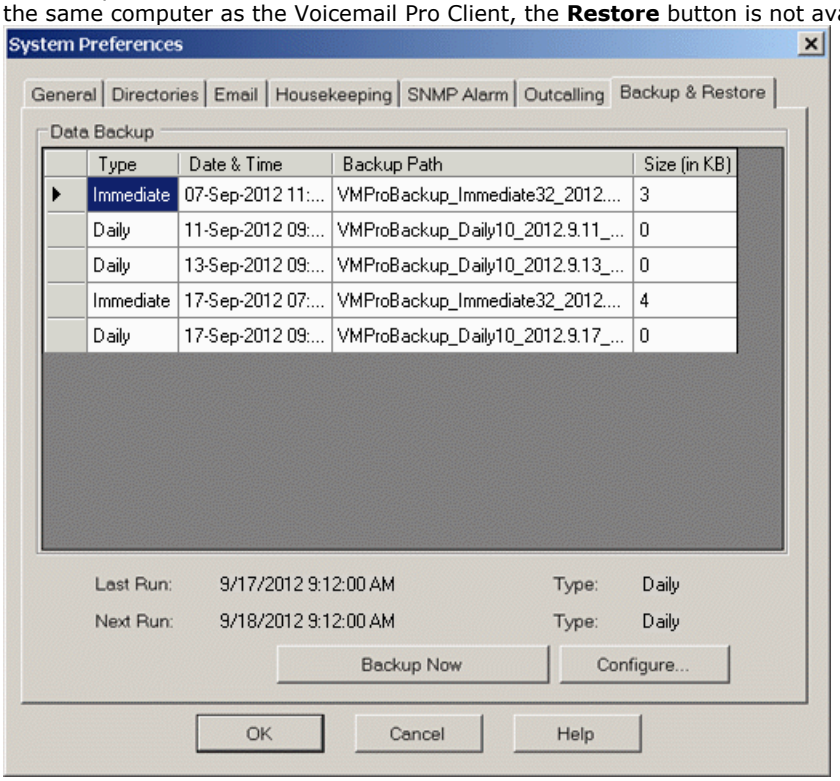
Note: If a backup is already in progress, the **Backup & Restore** dialog box displays **Abort** instead of **Backup Now**. Click **Abort** to abandon the backup in progress.

- **Configure**
  Click **Configure** to schedule backups for the voicemail data and settings. For details, see *Avaya IP Office Administering Voicemail Pro* (15-601063).

4. Click **OK** to close the **System Preferences** dialog box.

5. To save any changes, click **Save and Make Live** and select **Yes**.

Note: If you connect to a Linux-based voicemail server or to a Windows-based voicemail server that is not running on the same computer as the Voicemail Pro Client, the **Restore** button is not available.



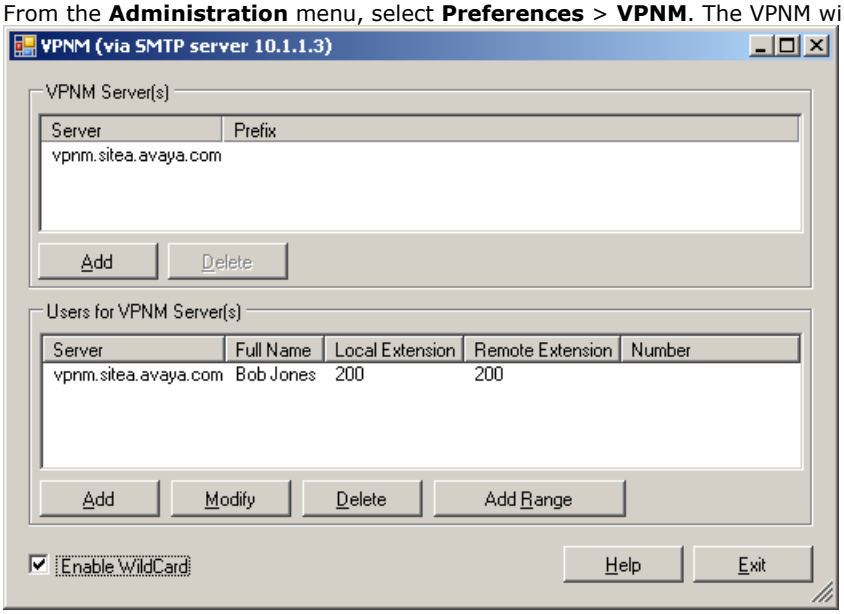
6.9 VPNM

This set of preferences is used to add a list of the remote VPNM servers and mailbox users on those servers.

- **!** These features are not supported on a Linux-based Voicemail Pro server.

To open the VPNM window:

1. Start the **Voicemail Pro Client**.
2. From the **Administration** menu, select **Preferences** > **VPNM**. The VPNM window opens.



To add a VPNM server:

1. In the **VPNM Server(s)** section, click **Add**.
2. Enter the fully qualified domain name of the remote VPNM destination (the remote Voicemail Pro server computer or Avaya Interchange).

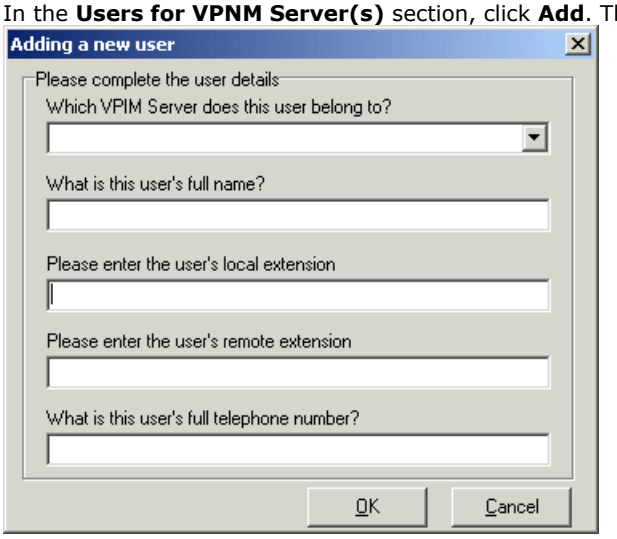
3. Enter the two digit access prefix, if these are being used.
4. Click **OK**.

To delete a VPNM server:

1. In the **VPNM Server(s)** section, select the server that is to be deleted.
2. Click **Delete**. When a server is deleted, all of the users associated with that server are also deleted.

To add a user to VPNM server:

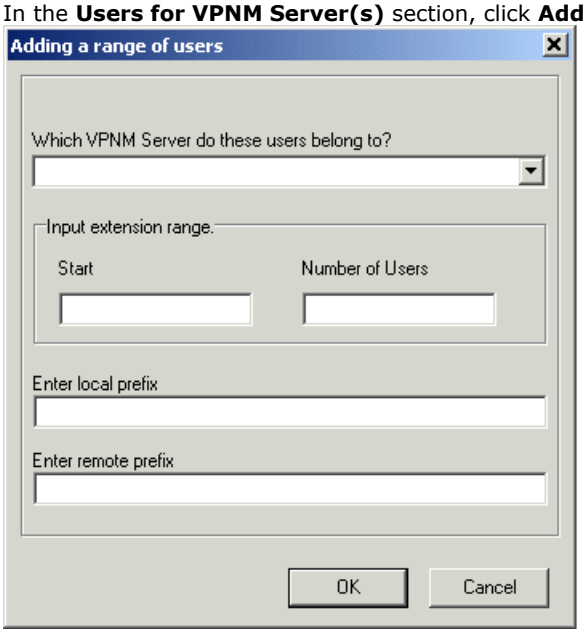
1. In the **Users for VPNM Server(s)** section, click **Add**. The Adding a new user window opens.



2. Enter details for the user. All of these details MUST be completed before the user can be added.
   - Select the VPNM server from the listing.
   - Enter the user's full name. The user's full name is used by the local Voicemail Pro's dial by name feature.
   - Enter the user's extension. The local extension number is used as the local mailbox number and so should not conflict with any existing local number.
   - Enter the user's remote extension. The remote extension number should be the user's real extension number. Typically this and the 'local extension number' are kept the same using a unique extension number dial plan for the linked systems.
   - Enter the user's full telephone number. The full telephone number should be a dialable number that is routed to the user's extension or mailbox.
3. Click **OK** to save the details and return to the VPNM configuration window.

To add a group of users:

1. (Optional) Check the option **Enable WildCard**. When this option is selected you can use the question mark symbol (?) to represent any number.
2. In the **Users for VPNM Server(s)** section, click **Add Range**. The **Adding a range of users** window opens.



3. Enter details for the users. All of these details MUST be completed before the users can be added.
   - Select the VPNM server for which you want to add the users.
   - Enter the start number of the extension range.
   - Enter the local prefix.
   - Enter remote prefix.
4. Click **OK** to save the details and return to the VPNM configuration window.

To change details of a VPNM user:

1. In the **Users for VPNM Server(s)** section, select the name of the user whose details need to be changed.
2. Click **Modify**. You can change the user's full name, the local extension number and the full telephone number.

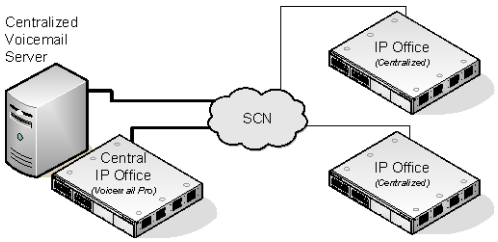
Chapter 7.
Centralized Voicemail Pro

7. Centralized Voicemail Pro

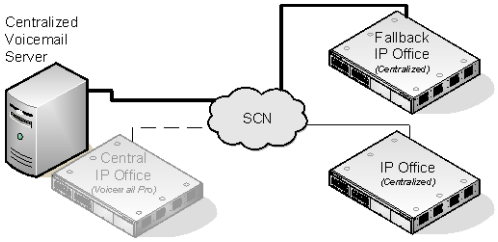
A Small Community Network (SCN) consists of several IP Office telephone systems. These are connected using **H323 Lines** where the **Supplementary Services** settings of the lines has been set to ***IP Office SCN***. For details, see *Avaya IP Office Manager* (15-601011).

Within a Small Community Network, the following options for providing voicemail are supported:

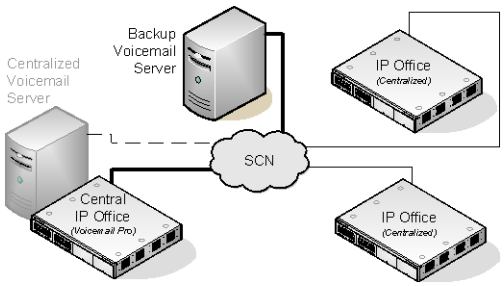
- **Centralized Voicemail** 117
  Centralized Voicemail Pro uses a single Voicemail Pro server to provide voicemail services for all IP Offices in the Small Community Network. Except for use of ContactStore, only the central IP Office hosting the voicemail server requires licensing for Voicemail Pro operation and features.
  - **Licenses:** The central IP Office is licensed as normal for Voicemail Pro operation and the voicemail features required. The other IP Offices only require licenses for UMS and or for ContactStore if required.



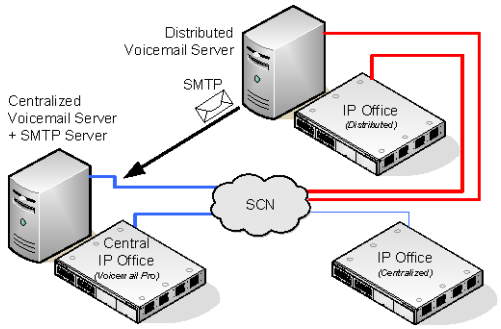
- **Centralized Voicemail with Fallback IP Office** 118
  Control of the voicemail server can be taken over by another IP Office if the central IP Office becomes unavailable.
  - IP Office Release 5.0+ with Voicemail Pro 5.0+.
  - **Licenses:** The fallback IP Office that takes over control of the voicemail server requires licenses for Voicemail Pro operation and the features required during fallback.



- **Centralized Voicemail with a Backup Voicemail Server** 119
  The central IP Office hosting the voicemail server can be configured with the IP address of a backup voicemail server. During normal operation, call flows and other settings on the backup server are kept synchronized with those of the primary voicemail server. If the primary voicemail server becomes unavailable to the network, voicemail services are provided by the backup voicemail server.
  - IP Office Release 6.0+ with Voicemail Pro 6.0+.
  - IIS SMTP is used to exchange information between the servers.
  - **Licenses:** The existing licenses are used.



- **Centralized Voicemail with Distributed Voicemail Servers** 121
  Other IP Offices in the Small Community Network can host their own Voicemail Pro server. That server is then used for the IP Office's voicemail functions except message storage.
  - IP Office Release 6.0+ with Voicemail Pro 6.0+.
  - IIS SMTP is used to exchange information between the servers.
  - The distributed voicemail server provides all voicemail services except voicemail collection for its associated IP Office.
  - **Licenses:** Each IP Office using a distributed voicemail server must have licenses for Voicemail Pro operation and the voicemail features required.

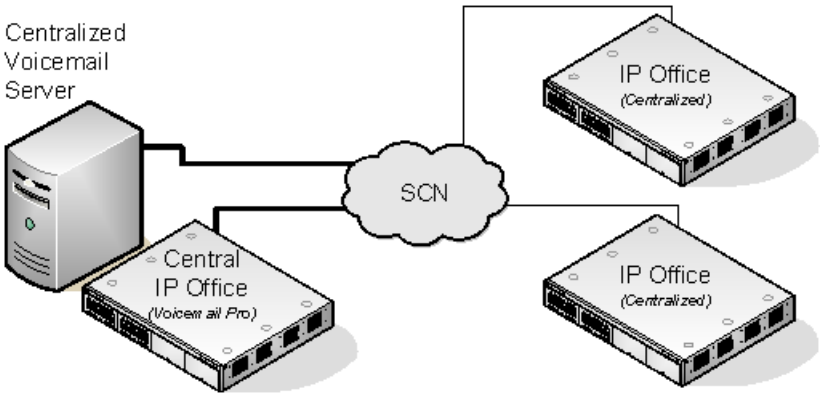


In all the cases above, the central voicemail server remains the store for messages and recordings (except for Exchange UMS users). The central voicemail server does message waiting indication and is the voicemail server used for message collection. Only when the central server is temporarily unavailable will the backup or any distributed server do message storage and collection. In those scenarios, when the central server is restored, messages collected by the backup or distributed servers are forwarded to the central server.

Combinations 124 of the solutions above can be deployed. For example using a backup server and fallback IP Office control.

7.1 Centralized Voicemail

Within a Small Community Network, a single Voicemail Pro server can be used to provide voicemail features for all the IP Offices in the SCN.



One IP Office is configured for operation with the Voicemail Pro server as normal, including the license for voicemail operation and the features required. This IP Office is then regarded as the central IP Office for voicemail.

Within the other IP Office systems, the voicemail settings are configured to indicate that they get their voicemail services from the central IP Office. These IP Offices do not need licenses for voicemail (except for ContactStore and or UMS if required).

With the International Time Zone functionality available on the central Voicemail Pro server, the users of the IP offices located in different time zones across the globe receive messages in their voicemail system with their respective time stamp. In the sample scenario, the three IP Offices located in different time zones connect to each other. Two of the IP Offices are located in different geographical locations and are connected to the central IP Office. The Voicemail Pro server connects to the central IP Office. In this setup, the system stores the voicemail messages on the centralized Voicemail Pro. Each IP Office is set up to use Simple Network Time Protocol (SNTP) .

In the centralized Voicemail Pro setup, the time source of the IP Office network must be SNTP (Simple Network Time Protocol).

Simple Network Time Protocol (SNTP) is an Internet standard protocol (built on top of TCP/IP) that provides accurate synchronization to the millisecond of computer clock times in a network of computers. It synchronizes all the IP Offices in an SCN configuration.

Summary of IP Office Settings

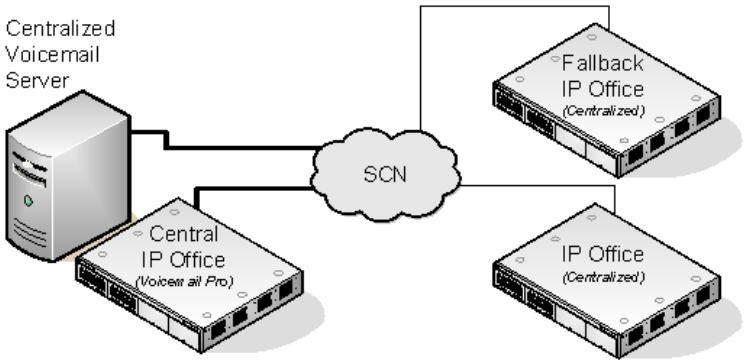
Once the IP Office SCN has been setup, the following settings are used in the IP Office systems to provide voicemail operation for all the IP Offices.

IP Office Settings	Central IP Office	Other IP Offices
Voicemail Type	***Voicemail Pro***	***Centralized Voicemail***
Voicemail IP Address	Set to the voicemail server computer's IP address.	*Not used.*
Voicemail Destination	*Not used.*	Set to the **Outgoing Group ID** of the H323 Line to the central IP Office.
Licenses	This system needs licenses 12 for all the Voicemail Pro features required.	The other IP Offices only require licenses for UMS and or for ContactStore if required.

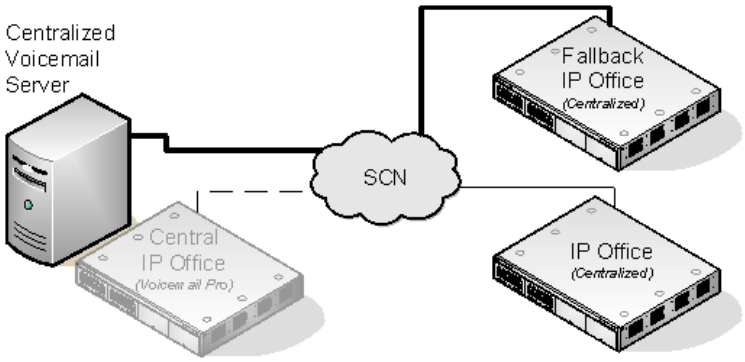
When accessing a voicemail server that is acting as centralized voicemail server, the Voicemail Pro will display **Centralized Voicemail** in the title bar.

7.2 Fallback IP Office Control

IP Office Release 5.0+ supports a number of fallback features for Small Community Networks. In conjunction with Voicemail Pro 5.0+, fallback can include one of the IP Offices assuming control of the voicemail server should the central IP Office become unavailable on the network.



Normal Operation
During normal operation, voicemail services for the Small Community Network are provided by the central IP Office communicating with the voicemail server.



Fallback Control Operation
If the central IP Office becomes unavailable to the network, control of voicemail services for the Small Community Network is taken over by the fallback IP Office.

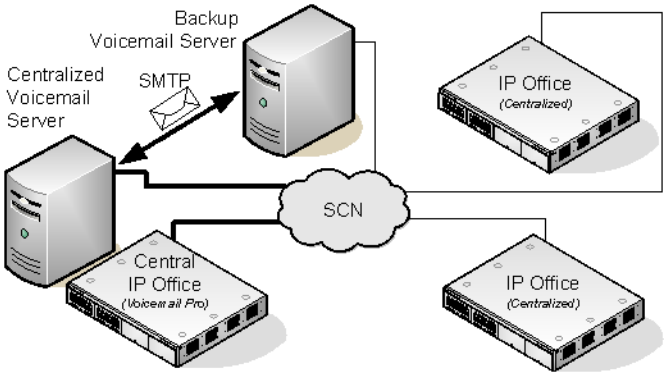
- **WARNING**
  During the transition of voicemail control, access to voicemail may be unavailable for several minutes. Existing voicemail calls are disconnected and new calls are routed as if voicemail is unavailable. The same applies when the central IP Office is restored.

Setup and Requirements for Voicemail Fallback

- Within the configuration of the central IP Office hosting the voicemail server, on the H323 Line to the fallback IP Office;
  - The **Supplementary Services** setting should be changed from ***IP Office - SCN*** to ***IP Office -SCN Fallback***.
  - The option ***Backs up my Voicemail*** should then be selected from the **SCN Backup Options**.
- The fallback IP Office is configured for centralized voicemail as normal. However its configuration must also include licenses for the Voicemail Pro support and the voicemail features required during fallback.

7.3 Backup Voicemail Server Operation

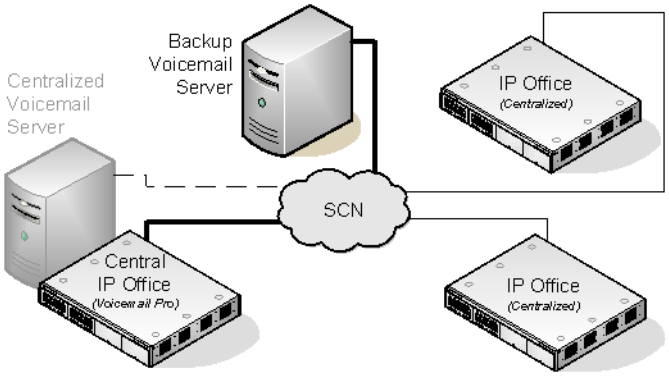
For IP Office Release 6.0 or later, the central IP Office hosting the Voicemail Pro server can be configured with the IP address of a backup voicemail server. If the central voicemail server becomes unavailable to the network, the backup voicemail server will be used to provide voicemail services. This option requires the voicemail servers to be running Voicemail Pro Release 6.0 or later.



Centralized voicemail with a backup server during normal operation.

During Normal Operation:

- Voicemail services and message storage for the IP Offices is provided by the central voicemail server.
- Call flows, greetings, recorded names, and configuration settings on the backup voicemail server are synchronized with those on the central voicemail server. The configuration settings that are synchronized include the registry settings, user variables, SMTP mappings, and alarms. However, the directory locations, settings specific to Voicemail Pro client, Voicemail Pro IIS port settings, Campaign settings, Service SID of the Voicemail Pro service, and backup configuration settings are not synchronized.
- Messages are synchronized, but the central voicemail server remains the message store.
- The central and backup servers are synchronized regularly at defined intervals using IIS SMTP e-mail between the servers.



Centralized voicemail with a backup server during backup operation.

During Backup Operation:
If the central server become unavailable to the network:

- The backup server provides voicemail services to the IP Offices.
- New messages are stored on the backup server.

After Backup Operation
When the central server is restored to the network:

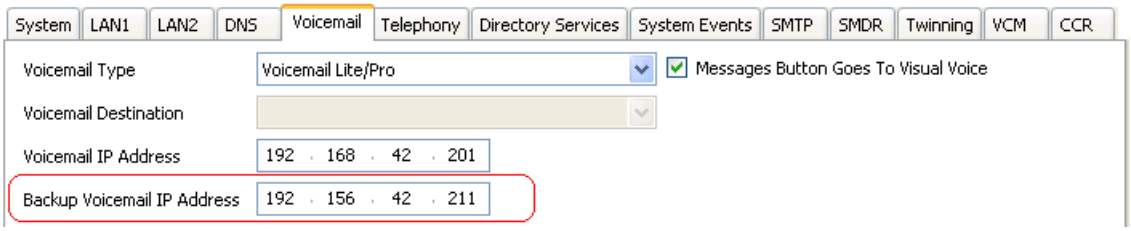
- Call flows, greetings, recorded names, and configuration settings on the central server are synchronized with those on the backup server.
- The central server sends a signal to the backup server to indicate that it is ready to resume control as the active voicemail server.
- Depending on the mode of failback operation configured, the system administrator or the backup server initiates failback operation to reinstate the central server as the active voicemail server.
  - Manual Failback 121
  - Graceful Failback 121
  - Automatic Failback 121

  Note: For details on configuring failback operation on backup server, see the "Configuring Failback Operation on Backup Server" section in *Avaya IP Office Administering Voicemail Pro* (15-601063).
- Any new calls that arrive when failback operation is in progress are lost.
- If the backup server becomes unavailable to the network before failback operation, the central server resumes control as the active voicemail server.

- Call flows defined on the central server are synchronized with the backup server.
- Call flows defined on the central server cannot be modified on the backup server.
- Call flows cannot be defined on the backup server.
- Call flows defined on a distributed server are not synchronized to the central or backup servers.

Configuring Backup Server Operation

1. The Voicemail Pro server software is installed as normal on the backup server computer. The voicemail server is not specifically configured as being a backup server.
2. The central IP Office hosting the primary voicemail server is configured with the IP addresses of both the primary voicemail server and the backup voicemail server.



3. The other IP Offices are configured for centralized or distributed voicemail as normal.

7.3.1 Manual Failback

The following is the sequence of events for the manual failback operation of the backup server:

1. The backup server functions as the active voicemail server until the system administrator shuts down the backup server.
2. The system administrator chooses one of the following options to shutdown the backup server:
   - If no voicemail calls are active on the backup server, shutdown the backup server immediately.
   - If some voicemail calls are active on the backup server, suspend the backup server operation to prevent any new voicemail calls. Then, shutdown the backup server immediately after all the active voicemail calls on the backup server come to an end.
   - If some voicemail calls are active on the backup server, suspend the backup server operation to prevent any new voicemail calls. Then, shutdown the backup server immediately after the number of active voicemail calls on the backup server reduces significantly.
3. When the backup server shuts down, the central server resumes control as the active voicemail server.

7.3.2 Graceful Failback

The following is the sequence of events for the graceful failback operation of the backup server:

1. The backup server functions as the active voicemail server while voicemail calls are active on the backup server.
2. The backup server hands over the control to the central server immediately after all the active voicemail calls on the backup server come to an end.

7.3.3 Automatic Failback

The following is the sequence of events for the automatic failback operation of the backup server:

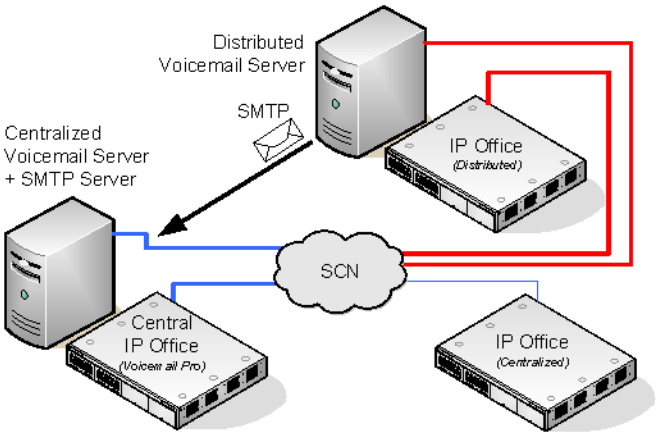
1. The backup server enters the suspend mode to prevent any new voicemail calls and starts a countdown timer for the failback operation timeout.
2. The backup server functions as the active voicemail server until any one of the following events:
   - All active voicemail calls on the backup server come to an end.
   - Timeout period for failback operation is elapsed.
3. The backup server hands over the control to the central voicemail server immediately after any one of the aforementioned events.

Note: If the failback operation timeout is set to 0, the hand over of the control is immediate.

7.4 Distributed Voicemail Servers

For IP Office Release 6.0 and higher, remote IP Offices in the Small Community Network can be associated with another voicemail server in addition to the centralized voicemail server. The additional distributed server then provides all voicemail services (except message storage and collection) for that IP Office. This requires the remote IP Office to have licenses for voicemail operation and the features it requires.

While the distributed server does message recording, it forwards all messages to the central voicemail server. The messages are transferred between systems using an IIS SMTP e-mail services. For mailbox users, message waiting indication and message collection is still done using the central voicemail server. With the support of International Time Zone (ITZ) functionality, the users of the IP Offices located across the globe receive messages in their voicemail system with their respective local time stamp.



Centralized Voicemail with Additional Distributed Voicemail Servers

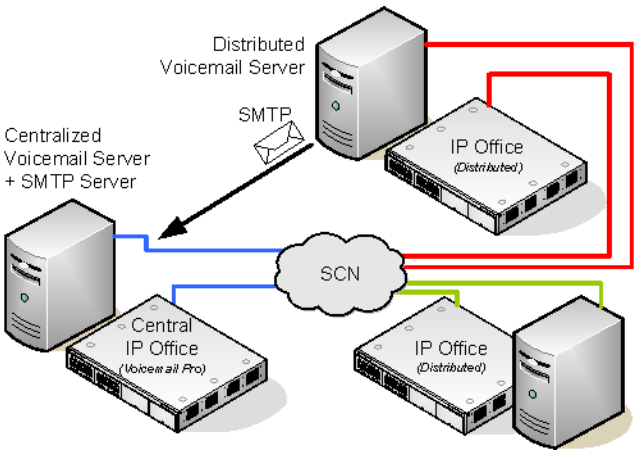
In this scenario, the three IP Offices located in different time zones connect to each other. Two of the IP Offices are located in different geographical locations and are connected to the Central IP Office. The Central IP Office connects to a central Voicemail Pro server and the other IP Offices connect to the Distributed Voicemail Pro server, an additional voicemail server added to the Small Community Network. Each IP Office is set up to use Simple Network Time Protocol (SNTP), the time source of the IP Office Network.

Simple Network Time Protocol (SNTP) is an Internet standard protocol (built on top of TCP/IP) that provides accurate synchronization to the millisecond of computer clock times in a network of computers. It synchronizes all the IP Offices in an SCN configuration.

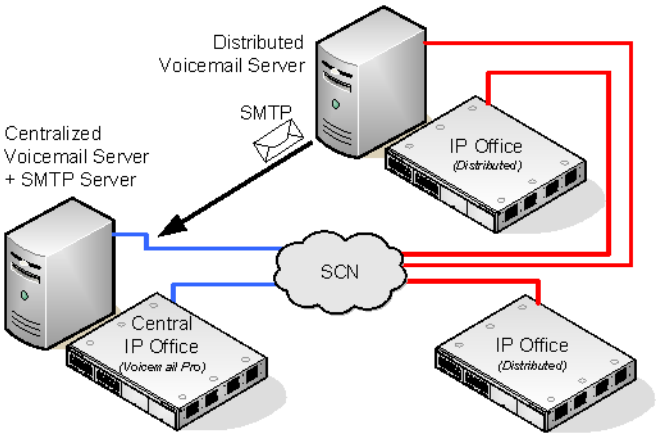
- Other IP Offices continue to use centralized voicemail as normal.
- An IP Office that is using a distributed voicemail server cannot also be used as the fallback IP Office 118 for the central voicemail server.

- The synchronization is done using IIS SMTP e-mail between the servers.

Note: In the distributed Voicemail Pro set up, ITZ functions similar to the centralized Voicemail pro set up.



Multiple Distributed Servers
Additional distributed voicemail servers can be added as required by the individual IP Office sites in the Small Community Network.



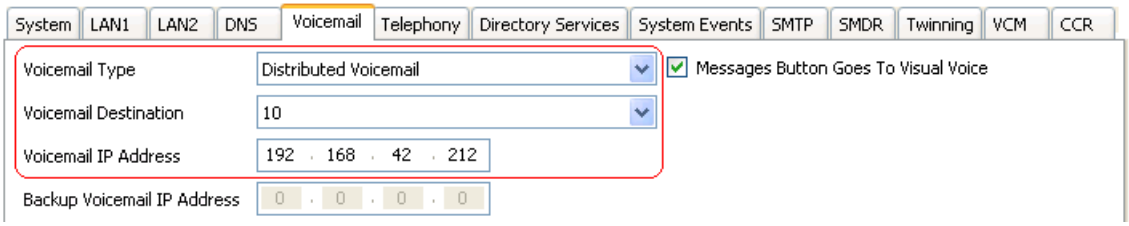
Sharing Distributed Voicemail Servers
The same distributed voicemail server can be shared by several IP Offices. The services it provided to each will depend on the licenses that each has.

Summary of IP Office Configuration Settings for Distributed Voicemail Servers

IP Office Settings	Central IP Office	Other IP Offices	IP Office with Distributed Server
Voicemail Type	***Voicemail Pro***	***Centralized Voicemail***	***Distributed Voicemail***
Voicemail IP Address	Set to the central voicemail server computer's IP address.	*Not used.*	Set to the distributed voicemail server computer's IP address.
Voicemail Destination	*Not used.*	Set to the **Outgoing Group ID** of the H323 Line to the central IP Office.	Set to the **Outgoing Group ID** of the H323 Line to the central IP Office.
Licenses	This system needs licenses for Voicemail Pro and all voicemail features required.	The other IP Offices only require licenses for UMS and or for ContactStore if required.	This system needs licenses for Voicemail Pro and all voicemail features required.

Configuring Distributed Voicemail Server Operation

1. The centralized voicemail server for the SCN and its central IP Office are configured as normal.
2. The Voicemail Pro server software is installed as normal any distributed voicemail server computer. The distributed voicemail server is not specifically configured as being a distributed server.
3. Each IP Office hosting a distributed voicemail server is configured with the **Voicemail Type** set to ***Distributed Voicemail***.

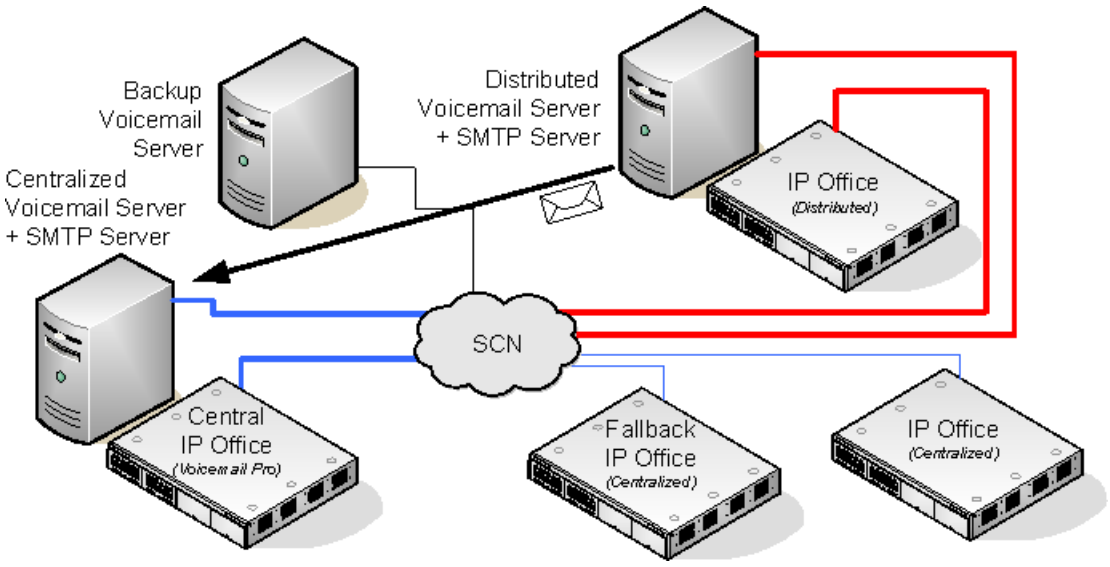


- The **Voicemail Destination** is set to the ***Outgoing Group ID*** of the H323 trunk to the central IP Office hosting the centralized voicemail server.
- The **Voicemail IP Address** is set to the IP address of the computer running the distributed voicemail server for the IP Office.

Note:
If you are using Voicemail Pro in a distributed environment, a distributed server delivers a recorded message to the central voicemail server on completion of the recording. However, the presentation to the voicemail server for message waiting indication (MWI) and access via telephone might be delayed because of the internal processing of the message and the network latency. The delay might be up to 2 minutes in high traffic situations.

7.5 Combined Options

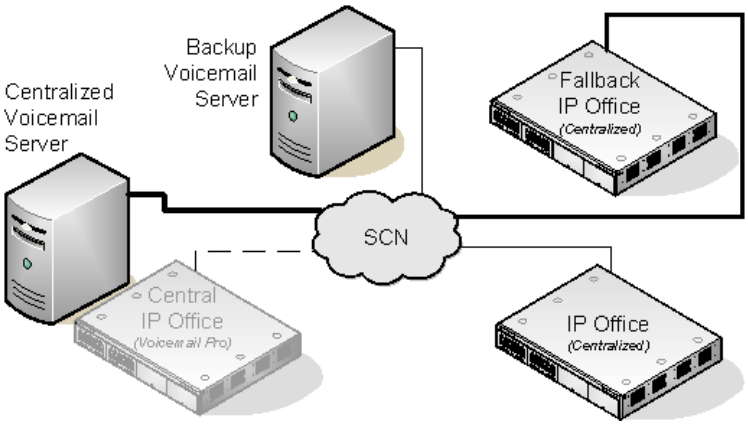
The various centralized voicemail options (standard, fallback, backup and distributed) can be used within the same Small Community Network.



- An IP Office using a distributed voicemail cannot be used as the fallback IP Office for the central IP Office.
- A distributed voicemail server cannot also be used as the backup voicemail server.

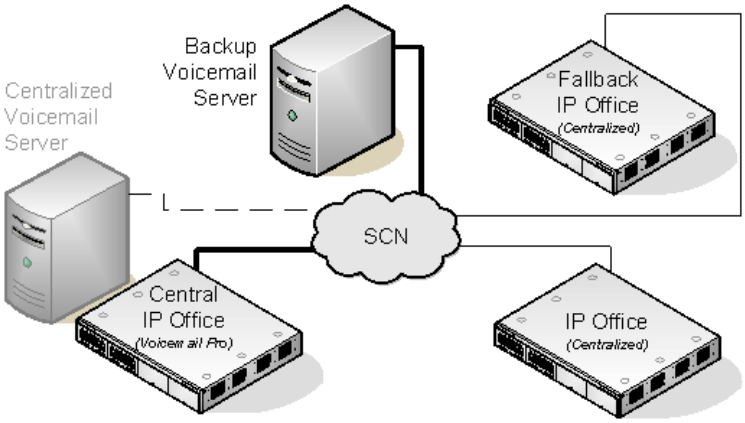
Example: Combined Fallback Control and Backup Server Operation

In the example below the fallback IP Office control [118] and backup voicemail server [119] operation can be combined.



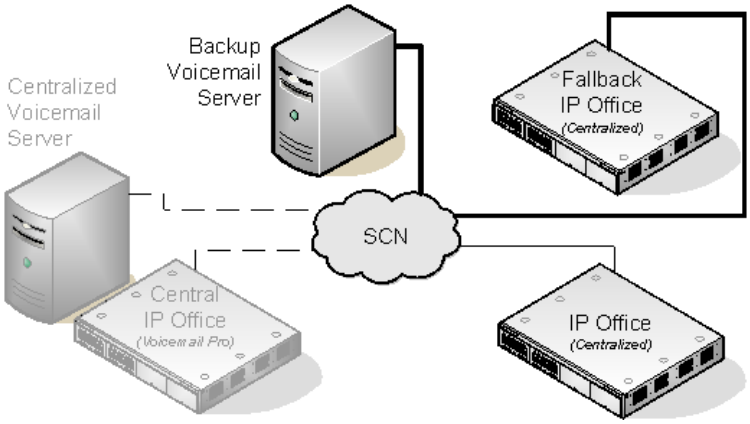
Central Voicemail Server controlled by Fallback IP Office

- **Central IP Office Unavailable**
  If the central IP Office becomes unavailable on the network, the fallback IP Office takes over control of voicemail services using the centralized voicemail server.



Backup Voicemail Server controlled by Central IP Office

- **Central Voicemail Unavailable**
  If the central voicemail server becomes unavailable on the network, the central IP Office will switch to using the backup voicemail server.



Combined Backup Voicemail Server and Fallback IP Office Operation

- **Central IP Office and Central Voicemail Server Unavailable**
  If both the central IP Office and the central voicemail server become unavailable to the network, voicemail services will switch to the backup voicemail server under control of the fallback IP Office.

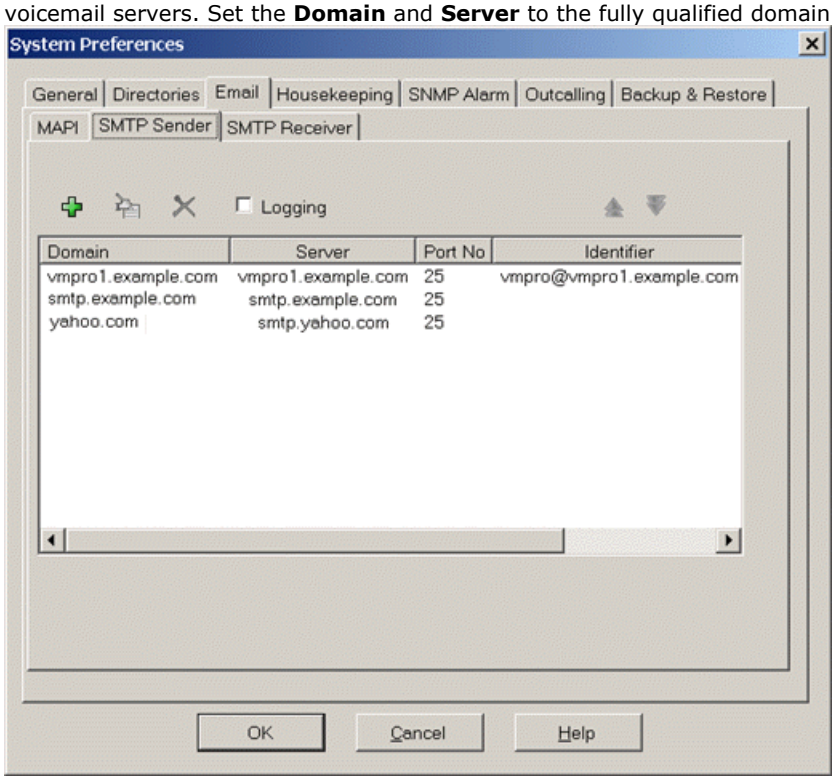
7.6 Installation Notes

SMTP Configuration

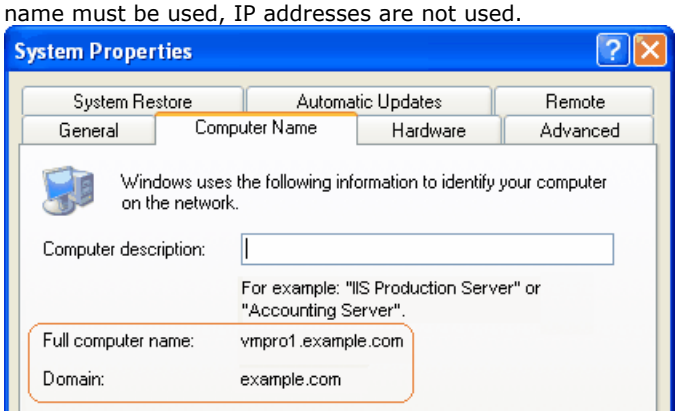
Both the distributed voicemail and backup voicemail scenarios use the same mechanism for the information exchange between the servers. That mechanism uses SMTP e-mails between the IIS on each of the voicemail servers. Note that this means a server with Microsoft Exchange installed (such as an SBS server) cannot be used as Exchange replaces the IIS SMTP service.

The following notes apply to both scenarios unless specifically stated as otherwise.

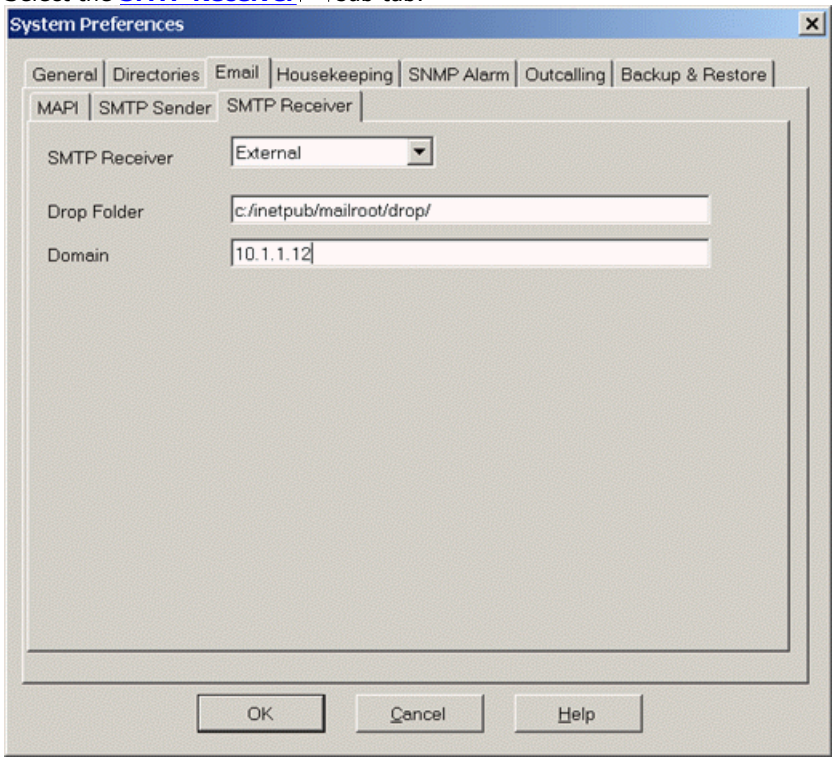
1. **Install and Enable IIS**
   All the voicemail servers (central, distributed and backup) require IIS to be installed and enabled on the server before installation of the Voicemail Pro server software.
   1. Start the **Internet Information Services** manager.
   2. Right-click on the **Default SMTP Virtual Server** and select **Properties**.
   3. Select the **Messages** tab. Deselect the **Limit Message Size** and **Limit number of messages per connection** options.
2. **Configure Each Voicemail Pro Server for SMTP E-mail via IIS**
   Following installation of the Voicemail Pro server software, its should be configured for SMTP e-mail operation as follows:
   a. By default the Voicemail Pro server installs defaulted to SMTP e-mail operation. However this should be checked.
      1. Start the Voicemail Pro Client. Click **Preferences** and select **General**.
      2. Click the **E-mail** tab.
      3. Verify that the **MAPI** settings are not enabled. .
      4. Select the **SMTP Sender** sub tab. The first entry in the list must be configured for SMTP between the voicemail servers. Set the **Domain** and **Server** to the fully qualified domain name of the voicemail server.



- For a Windows based voicemail server, these e-mails will be received on port 25 by IIS and will be placed in its mail drop folder. To obtain the name, right-click on **My Computer** and select **Properties**. The **Computer Name** tab shows the information that should be used as **Full computer name**. The name must be used, IP addresses are not used.



5. Select the **SMTP Receiver** sub tab.



- For a Windows based server, set the **SMTP Receiver** as ***External*** and set the **Drop Folder** address to be the IIS mail drop folder (usually ***C:\Inetpub\mailroot\Drop***).
- Click **OK**.

6. Click **Save & Make Live**.

3. **Verify that Port 25 is Not Blocked**
   Many firewalls block access to port 25 by default. Check that the firewall software on the server is configured to include ***VMProV5Svc.exe*** as an exception.

4. **DNS Host Routing *(Optional)***
   SMTP operation uses fully qualified domain names that need to be resolved to IP addresses by the network's DNS server. For name resolution, the hosts files on each server can be used. Note however that if this method is used, any changes to IP addresses of servers will need to be reflected in the file update. Locate the file ***C:\Windows\System32\drivers\etc\hosts*** and open it in a text editor such as WordPad. Add IP address and fully qualified domain name entries for each of the other voicemail servers.

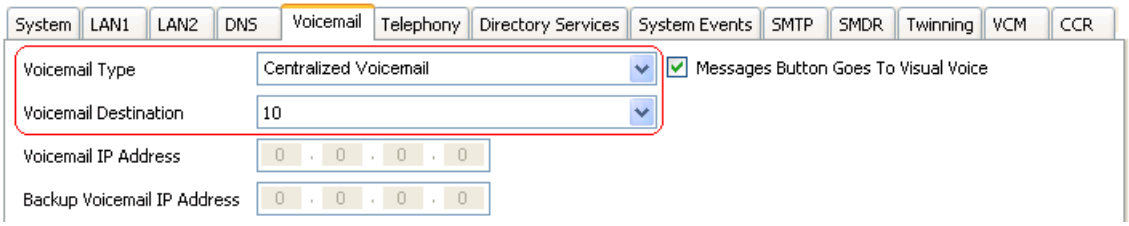
Voicemail Pro Configuration

In all scenarios, each Voicemail Pro server should use the same basic configuration settings, ie. the same voicemail mode (Intuity or IP Office) and the same housekeeping settings.

IP Office Configuration

Configuring Centralized Voicemail Server Operation

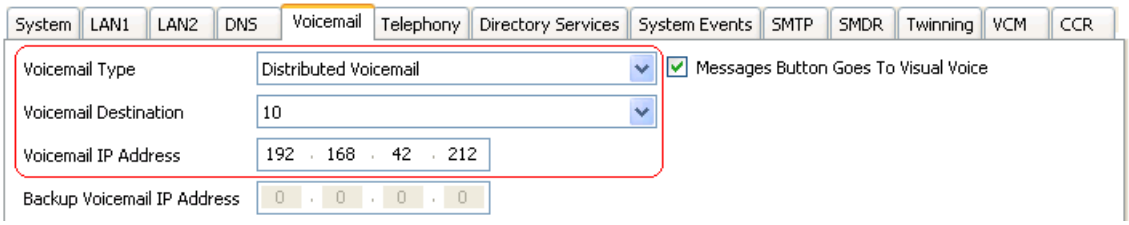
1. The centralized voicemail server for the SCN and its central IP Office are configured as normal.
2. Each IP Office not hosting a distributed voicemail server is configured with the **Voicemail Type** set to ***Centralized Voicemail***.



- The **Voicemail Destination** is set the ***Outgoing Group ID*** of the H323 trunk to the central IP Office hosting the centralized voicemail server.

Configuring Distributed Voicemail Server Operation

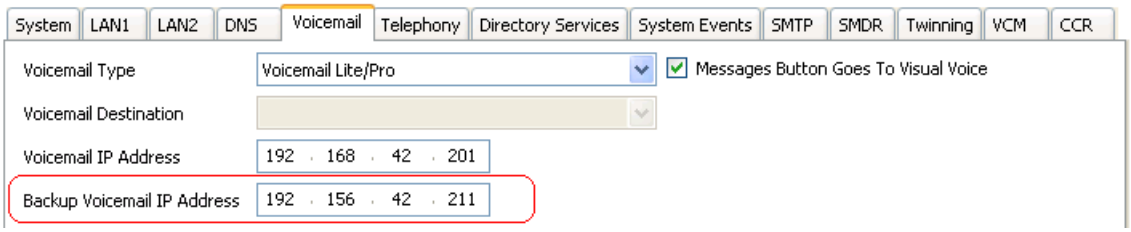
1. The centralized voicemail server for the SCN and its central IP Office are configured as normal.
2. The Voicemail Pro server software is installed as normal any distributed voicemail server computer. The distributed voicemail server is not specifically configured as being a distributed server.
3. Each IP Office hosting a distributed voicemail server is configured with the **Voicemail Type** set to ***Distributed Voicemail***.



- The **Voicemail Destination** is set to the ***Outgoing Group ID*** of the H323 trunk to the central IP Office hosting the centralized voicemail server.
- The **Voicemail IP Address** is set to the IP address of the computer running the distributed voicemail server for the IP Office.

Configuring Backup Server Operation

1. The Voicemail Pro server software is installed as normal on the backup server computer. The voicemail server is not specifically configured as being a backup server.
2. The central IP Office hosting the primary voicemail server is configured with the IP addresses of both the primary voicemail server and the backup voicemail server.



3. The other IP Offices are configured for centralized or distributed voicemail as normal.

Check the Server Connections

1. **Check Connection to the Central Server**
   In the following tests, remember to use the fully qualified domain name of each server.

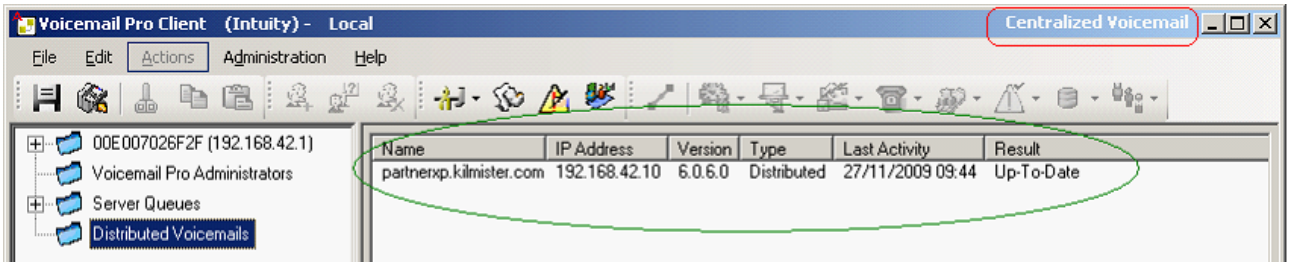
   a. **Ping Test**
   Make a ping from the server to the central server, for example ***ping vmpro1.example.com***. You should see a series of 4 successful replies from the server.

   b. **Telnet Test**
   Make a telnet test from the server to the central server, for example ***telnet vmpro1.example.com 25***. You should receive a response from the e-mail server within IIS. Enter ***quit*** to close the telnet connection.

2. **Check Connection from the Central Server**
   Repeat the ping and telnet tests, this time from the central server to the backup or distributed server.

Checking Status with the Voicemail Pro Client

When connected to a Voicemail Pro server using the Voicemail Pro client, the client title bar will display the role of that voicemail server; ***Centralized Voicemail***, ***Backup Voicemail*** or ***Distributed Voicemail***.



When connected to the backup voicemail server, if it is the active server, the title will have changed from ***Backup Voicemail*** to ***Backup Voicemail (Live)***.

When connected to the centralized voicemail server, the **Distributed Voicemails** folder can be selected to display details of the distributed servers and the state of the connection with each. The **Result** will be either:

- **In Progress**
  The servers are synchronizing information via SMTP.
- **Up-To-Date**
  The servers are synchronized.

Chapter 8.
Appendix

8. Appendix

8.1 SMTP Logging

SMTP error logging is enabled to generate a log of SMTP activity.

For a Windows-based Voicemail Pro installation, the activity is logged in a file in **C:\Program Files\Avaya\IP Office\Voicemail Pro\VM\logs**. The file name includes a date stamp for the day on which it is generated.

8.2 SFTP Host Key Verification

If you are trying to connect to a SFTP server for the first time, the connection may fail with an error message about the authenticity of the host. The behavior is a feature of the SSH protocol and is designed to protect you from a spoofing attack. To proceed, verify the host key of the SFTP server.

To verify the host key of the SFTP server

1. Log in to the computer that runs the Voicemail Pro service using the same Windows account that is used to start the service.
2. Open the WinSCP application.
3. Click **New**.
4. Enter the required details in the **Host name** and **User name** fields.
5. Click **Login**.
   A message is displayed that includes the host key of the SFTP server.
6. If you trust the displayed host key, click **Yes** to save the host key in the cache. Otherwise, get the host key from your system administrator, and match it with the displayed host key before you click **Yes**.
7. Enter the password to verify the connectivity to the remote SFTP server.

8.3 Installing VoiceMail Pro as an ACM Gateway

Complete the steps in this section to install Voicemail Pro as an ACM Gateway. There is only one type of installation for the Voicemail Pro ACM Gateway. Therefore you are not offered the choice of custom, compact or typical during the installation process.

To install the ACM Gateway:

1. Insert the **IP Office Applications** DVD. Click **Voicemail Pro**, and then double-click **setup.exe**. The **Choose Setup Language** window opens.
2. Select the installation language. This language is used for the installation and for the default language prompts.
3. Click **OK**. Installation preparation begins.
4. Voicemail Pro requires Microsoft .NET 2.0 Framework. If this version is not detected, you are prompted to install it. Click **Yes** to install Microsoft .NET 2.0 Framework and follow the instructions on the screen.
5. If the **Modify, repair or remove the program** window is displayed, follow the upgrade process 29.
6. In the **Welcome** window, click **Next**. The **Customer Information** window opens.
7. In the **Customer Information** window, type a user name and the company name or use the default names that are proposed. These settings do not affect Voicemail Pro when it is installed.
8. In the same window choose the option that determines who should be able to use Voicemail Pro when it has been installed. If you prefer, choose the **Anyone who uses this computer (all users**) option.
9. In the **Customer Information** window, click **Next**. The **Choose Destination Location** window opens.
10. In the **Choose Destination Location** window, click **Browse** and locate the folder where the Voicemail Pro files are to be installed. Otherwise, click **Next** to use the proposed folder. The **Messaging Components** window opens.
11. In the **Messaging Components** window, select **ACM Gateway**.
12. Click **Next**. The **Service Account Name** window opens. Details of the default administrator account may already be filled in.
13. In the **Service Account Name** window, type the **User Name** and **Password** for the user account under which the Voicemail Pro service should run. This should be the **Voicemail** account created previously on the domain and Exchange server. Alternatively, click **Browse** and select from the list of available computer or network accounts or click **Next** to use the proposed account details. The **Select Program Folder** window opens.
14. By default, the program folders are created in a folder called **IP Office**. You can specify a different folder or select one from the list of existing folders. To specify a different folder, type the folder name in the **Program Folders** box. Alternatively, to use an existing folder, highlight a name in the list of existing folders.
15. Click **Next**. The account details that you entered are verified. If you entered a user name that does not exist, the system prompts you whether to create a new computer user account with the specified name and password. Click **Yes**. The **Select Program Folder** window opens.
16. Select the program folder where you would like the icons for the Voicemail Pro components to be added. By default, the program icons are added to IP Office.
17. Click **Next**. The **Start Copying Files** window opens. Before any copying starts, you are presented with a summary of the settings that you have chosen so far.

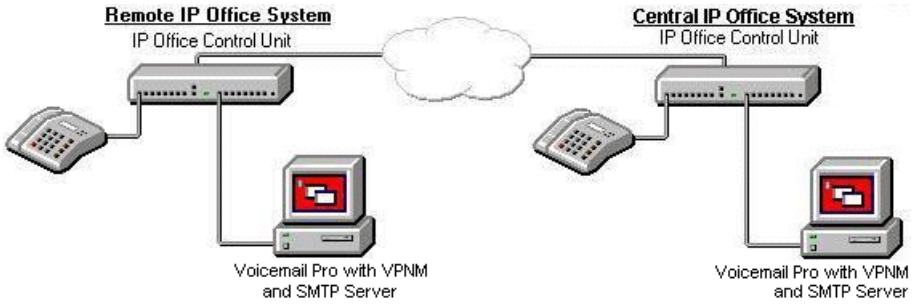
18. Review the settings to make sure that they are what you expect.
19. If for any reason the details are not what you expect, click **Back** and make the required changes. When you are satisfied that the details are correct, click **Next** to start copying the files. The **Setup Status** window opens to keep you informed while the installation takes place.
20. When the installation is complete, you are prompted to restart the computer. Choose **Yes I want to restart my computer now**.
21. Click **Finish** to restart the computer.
22. When the computer restarts, log back in. The **IP Office Voicemail Pro - ACM Gateway Settings** window opens.
23. In the **Mail Server** box, type the name of the mail server to use.
24. Choose **Message Networking/Interchange** to use Interchange or **Modular Messaging** to use Modular Messaging.1.
25. Click **Next**. The **IP Office Voicemail Pro SMTP E-mail Settings** window opens.
    - In the **Mail Server** box, type the name of the SMTP mail server. This should be the fully qualified domain name.
    - In the **Port Number** box, type the number of the receiving port on the SMTP mail server. The default is 25.
    - In the **Mail Drop** box, type the name of the destination folder for outgoing e-mails on the SMTP Server. Alternatively, click the **Browse** button and select the folder to use.
    - To enforce server authentication, check the **Server Requires Authentication** box. This is optional. If you check this option you also need to enter the account name and password. You can also choose whether or not to set the **Use Challenge Response Authentication** option.
26. Click **Finish**. The e-mail settings are validated. If everything has been installed correctly and the license requirements are met, you are prompted to start the Voicemail service. If the system fails to connect to the SMTP server, an error message is displayed. You might need to start the Voicemail service manually. See Starting the Voicemail Pro Service 28.
27. Click **OK** to acknowledge the message. You have now finished installing the Voicemail Pro ACM Gateway software.

8.4 Installing Networked Messaging (VPNM)

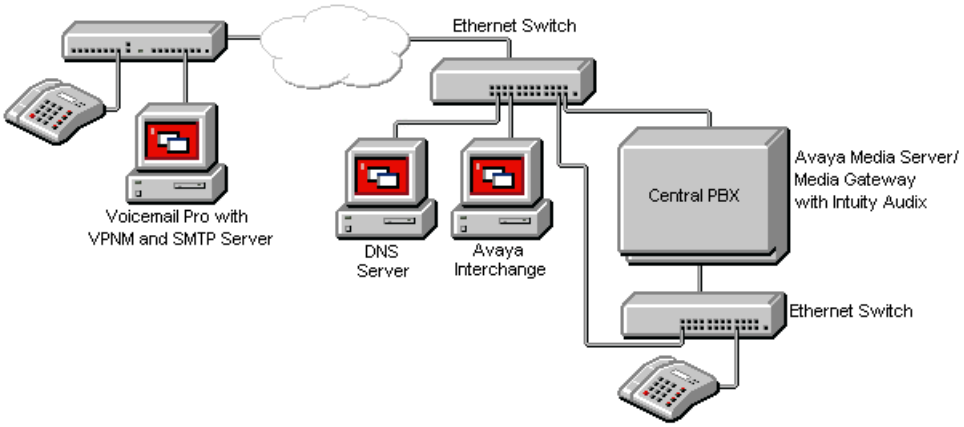
Voicemail Pro Networked Messaging (VPNM) supports users to forward voicemail to mailboxes on remote voicemail systems. This is done by adding a VPNM component to the Voicemail Pro installation.

The messages are transferred between systems using an SMTP/MIME mail format to encode both the voice part of the message and additional message details.

Here is a diagram to illustrate VPNM between two IP Office systems.



Here is a diagram of a sample VPNM configuration between an IP Office and Avaya Interchange. Depending on how your IP Network is set up, the configuration will differ slightly.



Up to 2000 mailboxes are supported per VPNM server and there is no constraint on the number of VPNM servers. However, to distinguish between dial plans you might need to allocate a dial pre-fix to each server. A maximum of 99 pre-fixes are available.

This section summarizes the steps required for installing VPNM between two IP Office systems and between an IP Office system and an Intuity Audix system through Avaya Interchange.

The instructions provided here should be read in conjunction with the other Avaya guides, for example *Avaya Interchange Adding a VPIM System to Your Network*. This is because the setup for Interchange VPIM is the same as for VPNM.

8.4.1 Requirements for VPNM

Check for the following before installing VPNM:

- A Voicemail Pro server with VPNM installed connected to each IP Office system. Each system will need a license for both Voicemail Pro and VPNM.
- All systems in the VPNM network need to be tested for their connectivity to the IP network. It is suggested that you test the following:
  - Ping the IP Addresses.
  - Ping the computer names. If in a domain, ping the fully qualified domain name.
- The Voicemail Pro Servers must have an SMTP server installed. This can be done using the SMTP component of Internet Information Service (IIS).
  - To test type "Telnet <the name of the SMTP server> 25".
- Server names, where entered, must be fully qualified domain names.
- Voicemail Pro should not be installed on the same server as Exchange and/or the domain controller.

8.4.2 Installing VoiceMail Pro with VPNM Support

For Voicemail Pro 6.1, the VPNM components are embedded parts of the Voicemail Pro service and so automatically installed.

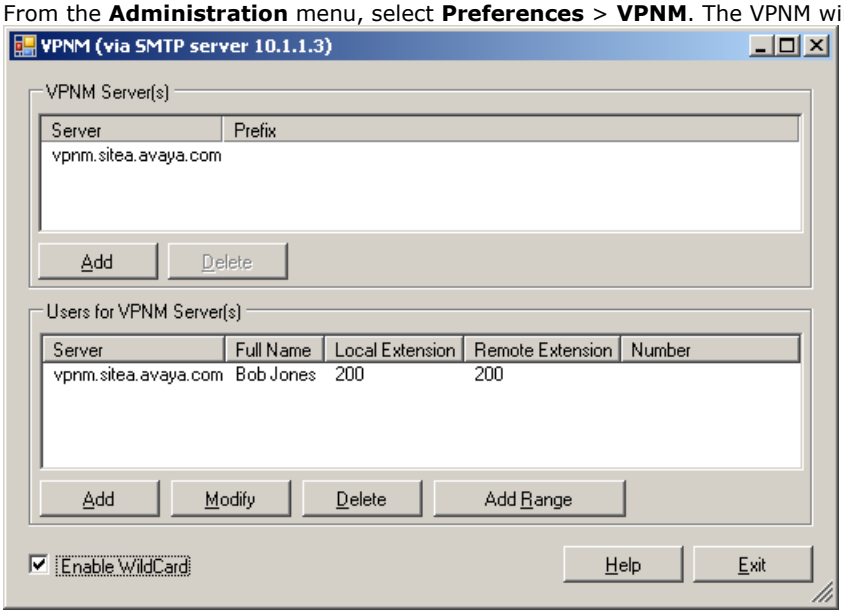
8.4.3 Configuring VPNM Preferences

This set of preferences is used to add a list of the remote VPNM servers and mailbox users on those servers.

- ! These features are not supported on a Linux-based Voicemail Pro server.

To open the VPNM window:

1. Start the **Voicemail Pro Client**.
2. From the **Administration** menu, select **Preferences** > **VPNM**. The VPNM window opens.



To add a VPNM server:

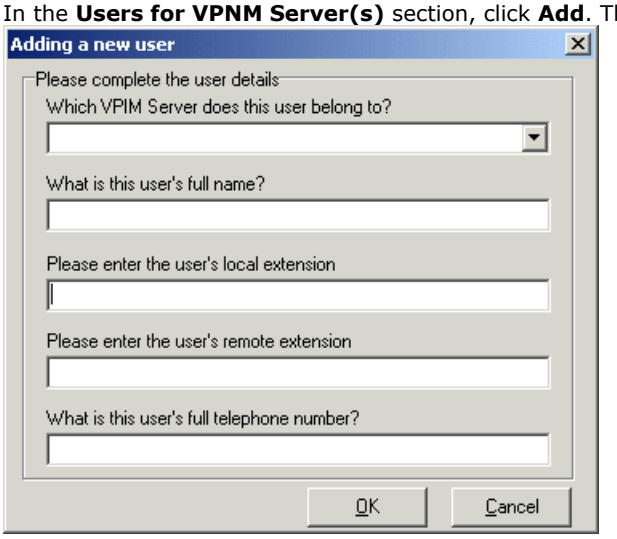
1. In the **VPNM Server(s)** section, click **Add**.
2. Enter the fully qualified domain name of the remote VPNM destination (the remote Voicemail Pro server computer or Avaya Interchange).
3. Enter the two digit access prefix, if these are being used.
4. Click **OK**.

To delete a VPNM server:

1. In the **VPNM Server(s)** section, select the server that is to be deleted.
2. Click **Delete**. When a server is deleted, all of the users associated with that server are also deleted.

To add a user to VPNM server:

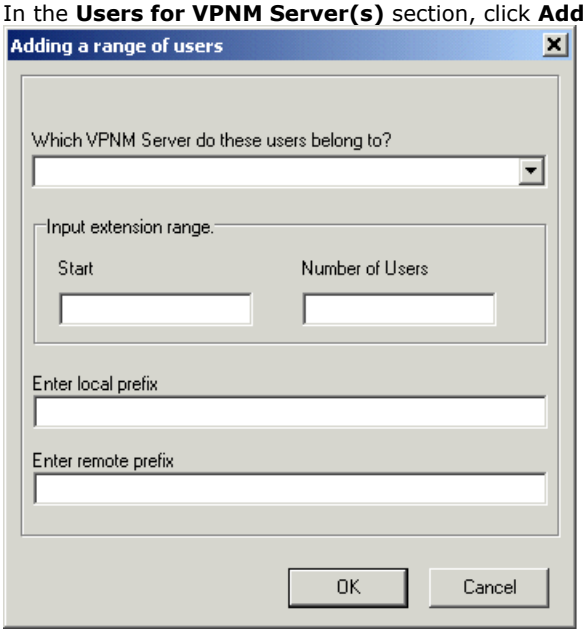
1. In the **Users for VPNM Server(s)** section, click **Add**. The Adding a new user window opens.



2. Enter details for the user. All of these details MUST be completed before the user can be added.
   - Select the VPNM server from the listing.
   - Enter the user's full name. The user's full name is used by the local Voicemail Pro's dial by name feature.
   - Enter the user's extension. The local extension number is used as the local mailbox number and so should not conflict with any existing local number.
   - Enter the user's remote extension. The remote extension number should be the user's real extension number. Typically this and the 'local extension number' are kept the same using a unique extension number dial plan for the linked systems.
   - Enter the user's full telephone number. The full telephone number should be a dialable number that is routed to the user's extension or mailbox.
3. Click **OK** to save the details and return to the VPNM configuration window.

To add a group of users:

1. (Optional) Check the option **Enable WildCard**. When this option is selected you can use the question mark symbol (?) to represent any number.
2. In the **Users for VPNM Server(s)** section, click **Add Range**. The **Adding a range of users** window opens.



3. Enter details for the users. All of these details MUST be completed before the users can be added.
   - Select the VPNM server for which you want to add the users.
   - Enter the start number of the extension range.
   - Enter the local prefix.
   - Enter remote prefix.
4. Click **OK** to save the details and return to the VPNM configuration window.

To change details of a VPNM user:

1. In the **Users for VPNM Server(s)** section, select the name of the user whose details need to be changed.
2. Click **Modify**. You can change the user's full name, the local extension number and the full telephone number.

8.4.4 Testing a VPNM Setup

It is advisable to test the VPNM setup.

To test the VPNM setup:

1. Dial into voicemail from one of the systems and record a message.
2. When selecting the target extension, enter an extension from the other system as specified in the VPNM Preferences screen.
3. The message should be delivered to the other systems Voicemail Pro server into ***C:\\Inetpub\mailroot\Drop***.
4. The **VPNMreceiver Service** checks the Drop directory approximately every 30 seconds. When it finds a message in the Drop directory, it will send the message to the relevant extension's voicemail box on the remote system.

8.5 Glossary

8.5.1 Centralized Voicemail Pro Server

Centralized Voicemail Pro uses a single Voicemail Pro server to provide voicemail services for all IP Offices in the Small Community Network. Except for use of ContactStore, only the central IP Office hosting the voicemail server requires licensing for Voicemail Pro operation and features.

8.5.2 Distributed Voicemail Pro Server

For IP Office Release 6.0 and higher, remote IP Offices in the Small Community Network can be associated with another voicemail server in addition to the centralized voicemail server. The additional distributed server then provides all voicemail services (except message storage and collection) for that IP Office. This requires the remote IP Office to have licenses for voicemail operation and the features it requires.

8.5.3 MAPI

Message Application Programming Interface (MAPI) is a Microsoft Windows system architecture that supports adding messaging functionality into applications. MAPI-enabled e-mail applications can share e-mails and also work together to distribute the mail.

8.5.4 SNTP

Simple Network Time Protocol (SNTP) is an Internet standard protocol (built on top of TCP/IP) that provides accurate synchronization to the millisecond of computer clock times in a network of computers. It synchronizes all the IP Offices in an SCN configuration.

8.5.5 VPNM

Voicemail Private Networked Messaging (VPNM) is a set of preferences available only if you have selected VPNM during installation and is licensed within the IP Office configuration. It is used to add a list of the remote VPNM servers and mailbox users on those servers.

8.5.6 VRL

Using the Voice Recording Library (VRL) operation, Voicemail Pro can transfer specific users' automatic and/or manually recorded calls to a third-party application. Users can select VRL as the destination for calls recorded via a Leave Mail action in a call flow.

Currently, this mode of operation is only supported with the Contact Store for IP Office application from Witness Systems. This application provides tools to sort, search and playback recordings. It also supports the archiving of recordings to DVD.

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