IP Office

Integrated Messaging (IMS) Installation

Issue 1a (14th May 2007)

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Documentation information
For the most current versions of documentation, go to the Avaya Support web site (http://www.avaya.com/support) or the IP Office Knowledge Base (http://marketingtools.avaya.com/knowledgebase/).

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Installing IMS

Overview

Integrated Messaging Service (IMS) is an addition component to Voicemail Pro. It allows users to deal with voicemails through their normal email interface (Microsoft Outlook or Exchange). Voicemails can still be handled conventionally using just the telephone.

With IMS, voicemails are presented with a special icon in the user's email inbox. When a voicemail is opened, a special form appears which enables the user to play back the message on their telephone. The voicemail message itself remains on the voicemail server.

When a voicemail is read, forwarded or deleted, either from the email or by using the phone, its status is reflected in both the mailbox and the email inbox.

- **Playing Messages Through the PC**
  Normally IMS plays the voicemail messages through the PC user's telephone. IMS can be set up to send the voicemail messages as wav files which are played using the PC's sound capabilities. However, this creates a heavy load on the network and servers and so is not recommended. Typically, one minute of speech requires the transfer of a 1MB file across the network.
- **Required Network and Exchange Server Knowledge**
  Installation of IMS requires access to the customer's Exchange server and to other critical components of their network. The installation should be performed only by an installer with good knowledge of Exchange Server and Microsoft network setup. The installation should also be performed only in conjunction with the customer's network manager.

IMS Limitations

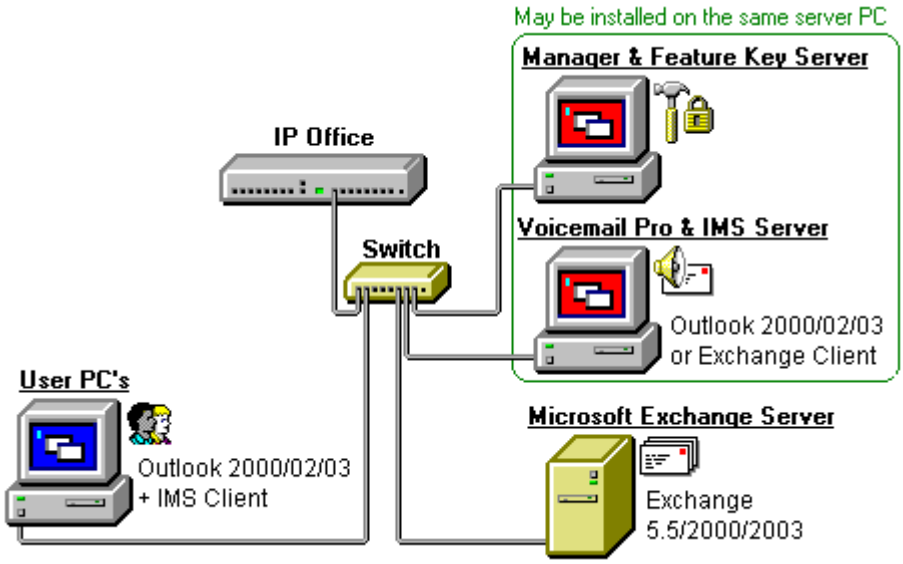
IMS is designed to work in a system that comprises one IP Office and one Microsoft Exchange Server. It can be used in a system with more than one telephone system as long as that system has centralized voicemail using just one voicemail server.

IMS cannot be used to:

- Compose a new voicemail.
- Reply to a voicemail.
- Add comments to a forwarded voicemail.
- Mark a voicemail as urgent.
- Voicemails should not be placed in Public Folders.
- Clients that do not use TCP/IP are not supported.
- When it starts up, IMS only scans the root inbox for new messages.

IMS Components

IMS consists of the following components.



- **Voicemail Pro**
  Provides voicemail services to the IP Office users.
- **IMS Server**
  This consists of two services installed on the Voicemail Pro Server PC:
  - **IMS Voice Service**
    Handles the delivery of messages when the user selects to play a message from Outlook.
  - **IMS Gateway Service**
    Interacts with the Voicemail Pro Server, the Exchange Server and the IMS Clients. Stores the current known status of voicemail messages and mirrors that status in both user's email and voicemail mailboxes.
- **Microsoft Exchange Server**
  The customer's MS Exchange server.
- **IMS Administration Tool**
  This tool is used to maintain the association of voicemail mailboxes to email mailboxes.

The following components are required on the user PCs.

- **Microsoft Exchange or Outlook**
  Microsoft Exchange Client or Outlook 97 or higher. Outlook 2003 (Cache Mode off)
- **IMS Client**
  Installed on each email user's PC. This provides a voicemail interface within the user's Microsoft Exchange or Outlook program.

IMS Client PC Requirements

These are the general requirement for a user PC to run the IMS Client application.

1. **Minimum PC specification for an IMS Client PC**
   These are minimum specifications and in most cases will not meet the customer's expectations for acceptable performance. The end user's PC should be a newer PC to meet the customer's expectations and will far exceed the minimum specs listed above.

RAM	HD	Pentium	Celeron	AMD	XP Pro	2000 Pro	2003
64MB	160Mb	800MHz	Celeron 3 800MHz	Althon B 650Mhz	✓	✓	✓

2. The client must use TCP/IP networking.
3. Users must be members of the same Domain as the IMS/Voicemail Pro Server.
4. The supported email services are MS Exchange 2000 and 2003.
5. The IMS client is supported with Microsoft Outlook 2000/2003 with cache mode off.
6. If you are the installer or system administrator, you must log on to the Client PC as the person who is going to be using the IMS software and you must have Administrator rights for that PC to install the software.
7. Outlook must already be installed and configured on the user's PC. Test this by using Outlook to send a test message.

IMS Server PC Requirements

In addition to the Voicemail Pro server requirements, IMS requires the following.

- The voicemail server to use MAPI.
- Access to a Microsoft Exchange 5.5, 2000 or 2003 (SP1 and SP4) server.
- An Exchange User account for user IMS.
- A list equating Exchange User account names with voicemail box users.
- Use of the **Large Fonts** setting is not supported. Use of this option may cause options on some screens to become inaccessible.

Operating System Support

Voicemail Pro with IMS is only supported on the following Windows operating systems:

- Windows 2000 Server with SP2.
- Windows 2003 Server with SP1.

- Windows 64-bit versions of the above are not supported.
- Variants of the above such as Windows SBC and Windows DataCenter are supported.
- No other operating systems are supported.

Network Requirements

- 100Mbps network card.
- The server PC should be configured and tested for TCP/IP networking.
- We strongly recommend that the voicemail server PC is connected to the IP Office Control Unit directly. If this is not possible it should be connected via a LAN switch rather than a LAN hub.
- If directly connected to the IP Office control unit, change the settings of the PC network card to match the IP Office control unit as listed in the table below.
- All IP Office LAN ports are 10Mbps/100Mbps auto sensing but it is recommended that the settings of the LAN switch port or network card connected to the IP Office are set as listed in the table below.

IP Office Control Unit	Use Port	Speed	Duplex
Small Office Edition	Any LAN port	100Mbps	Full duplex
IP406 V2	Any LAN port	100Mbps	Full duplex
IP412	LAN1	100Mbps	Half duplex
IP Office 500	LAN	100Mbps	Full duplex

- The PC should have a fixed IP address. Although PCs in a DHCP network may retain the same IP address between reboots this is **not** guaranteed.
    - If the IP Office is acting as the 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.

Disk Space Requirements

A Voicemail Pro installation including VPNM and IMS requires the following free hard disk space.

- Up to 2GB of disk space for the software and language prompts
- An additional 1MB of disk space per minute for messages and other recordings.
    - For Avaya IP Office Small Office Edition, you can expect to require at least 200 minutes of message recording space which is 200MB.
    - For a busy environment you can expect to require at least 1000 minutes of message recording space, that is 1GB.

A. IMS Server Installation

A0. Installation Checks

Before proceeding with installation ensure that the following requirements are meet:

1. **Preparation**
    1. ☐ **Read the Documentation in Full**
       Ensure that you have read the documentation for IMS Installation in full and have note all the additional requirements for the IMS server, domain interaction and IMS client setup.
    2. ☐ **Read the IP Office Technical Bulletins**
       Ensure that you have read the IP Office Technical Bulletins relating to the IP Office core software and the Voicemail Pro software being installed. These can be obtained from **http://support.avaya.com** and from **http://marketingtools.avaya.com/knowledgebase**.
2. **Information Required**
    1. ☐ **IP Office Feature Key Dongle Serial Number**
       This is printed on the Feature Key, prefixed with **S/N**.
    2. ☐ **IP Office Licenses**
       Ensure that the details of the supplied licenses match the Feature Key serial number. The minimum required licenses for Voicemail Pro with IMS are:
        - ☐ **Voicemail Pro (4 ports) license.**
        - ☐ **Integrated Messaging license.**
        - **Additional Voicemail Pro (ports)** licenses may be required depending of the number of simultaneous voicemail accesses and users.
        - For IP Office 500 systems an **IP500 Upgrade Standard to Professional** license is also required.
    3. ☐ **IP Office System Details**
       Service User name and password for access to the IP Office system configuration.
    4. ☐ **Network Administration Access**
       Contact details of the network and Exchange server administrator.
    5. ☐ **User Details**
       Listing linking email accounts and IP Office user names. Also detailing the location and contact information for the users.
3. **Materials Required**
    1. ☐ **IP Office Administration Applications CD.**
    2. ☐ **IP Office Voicemail Pro CD.**
    3. ☐ **IP Office Application Firewall Batch File**
       This file can be obtained from **http://marketingtools.avaya.com/knowledgebase/tools/firewall**.
4. Only when you have completed the above process should you proceed to **A1. Creating the IMS Account**.

A1. Creating the IMS Account

A domain user and mailbox account must already exist for the account named IMS. For information about creating this account, see Creating and Configuring the IMS Account. The Voicemail Pro software needs to be installed using an account with full administrator rights on the PC. The service subsequently runs under that account. We required that a specific account, IMS is created for this purpose and set so that its password does not expire.

The IMS account must be a member of the administrator's group on the IMS server PC. Note, it is not necessary to be a domain administrator, but must be a member of the administrators group on the PC to be able to start the IMS and Voicemail Pro services.

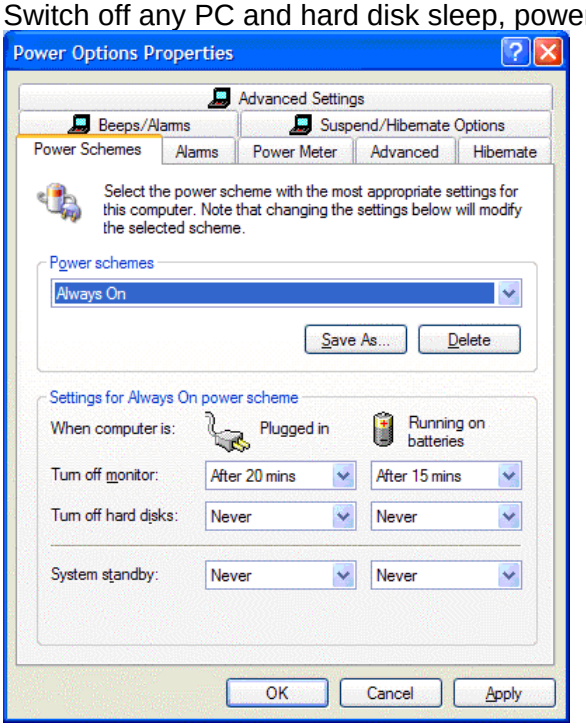
To create and configure a domain user and mailbox account called *IMS:*

1. Do not proceed with this process until you have completed the steps in A0. Installation Checks.
2. Working with the network administrator, create an account called **IMS** on the domain and an associated mailbox on the exchange server. Provide a secure password and ensure **User Cannot Change Password** and **Password Never Expires** are checked.
3. Make sure that the server PC that will be running IMS and Voicemail Pro is a member of the same domain as the Exchange server.
    - Log on using an account with administrative permissions on the domain.
    - Right-click **My Computer**. Select **Properties** and select the **Network Identification** Tab.
4. On the server PC, select **Administrative Tools** > **Computer Management** > **Groups**.
5. Select **Add**. From the **Look In** list select the domain name.
6. In the **Name** window, highlight the ***IMS*** account and click **Add**. Click **OK** twice.
7. Log out and log back in with the ***IMS*** account.
8. On the desktop, right-click the **Outlook** icon and select **Properties** to configure the ***IMS*** Account.
9. On the **Mail Properties** > **General Screen**, click **Add**.
10. Check the **Microsoft Exchange** checkbox and click **Next**.
11. Type in the Exchange servers name in the **Server** field, and **IMS** account in the **Mailbox** field. Please note, if using Outlook 2003 uncheck **Cache Mode**. Click **Next**.
12. Select **No** when asked if you travel with this computer. Click **Next**.
13. Click **Finish**.
14. Highlight the **MS Exchange Settings** and click **Properties**.
15. Highlight **Microsoft Exchange Server** and click **Properties**.
16. Click **Check name** and ensure the name is resolved.
17. If the name is resolved, select **Apply**. Click **OK** twice and then click **Close**.
18. Do not continue until the name has been correctly resolved with the Exchange Server. If the name is not correctly resolved, check the Exchange and Mail account details with the Exchange Administrator.
19. Open Outlook and select **Yes** to register **Outlook as the Default eMail application**.
20. Verify that you can send and receive emails.
21. Only when you have completed the above process should you proceed to **A2. IMS Server Preparation**.

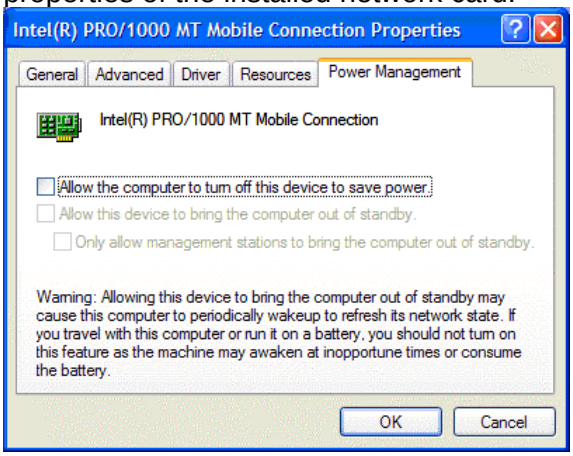
A2. IMS Server Preparation

1. ☐ Do not proceed with this process until you have completed the steps in **A1. Creating the IMS Account**.
2. ☐ Log on to the server PC using the IMS account and check the follow requirements.
3. ☐ **The Server is a Member of the Domain**
   The IMS Server **MUST** be a member of the customer's domain.
4. ☐ **The Domain Has an User and Email Account IMS**
   A domain user and mailbox account must already exist for the account named IMS. The Voicemail Pro software must be installed using this account with full administrator rights on the PC. The services subsequently run using that account.
5. ☐ **The IMS Account Has Admin Rights on the IMS Server**
   The IMS account must be a member of the administrator's group on the IMS server PC. Note, it is not necessary to be a domain administrator, but must be a member of the administrators group on the PC to be able to start the IMS and Voicemail Pro services.
6. ☐ **The Server's Outlook Client is Configured for the IMS Account**
   Check that the Outlook or Exchange client on the server PC is configured to use the same account (IMS).
7. ☐ **Test Email Operation**
   Log into the PC with this account (IMS) and verify that you can send and receive emails using this account.
8. ☐ **IP Office Manager is Installed**
   A PC with IP Office Manager and Microsoft .NET Framework versions 1.1 and 2.0 and Enable network COM+ access are installed on the IMS/Voicemail Pro server. IP Office Manager uses .NET Framework 2.0 whereas Voicemail Pro uses .NET Framework 1.1. If version 1.1 is not detected, you will be prompted to install it before the Voicemail Pro installation proceeds.
9. ☐ **Check or Disable IP Office Voicemail Email Settings**
   In the IP Office Manager, the Voicemail Email settings under the voicemail/user tab are switched **off** or are set to a different email account then the one you will be using with IMS. This is because the IP Office configuration settings for each user do not apply to IMS. They are usually switched off by default but it is advisable to check before you start the installation. For more information, see the IP Office Manager help. Please note Voicemail to Email can be used in conjunction to IMS for example to send an SMS alert to your SMS enabled cell phone but if set to the same Outlook email account as IMS would result in two emails being delivered to the user, one that synchronized with their voicemail and one that did not.

10. ☐ **Disable any Server PC Power Saving Mode**
    Switch off any PC and hard disk sleep, power down, suspend and hibernation modes.



11. **Disable Network Card Power Saving**
    Disable any Network Card including the power save options for the NIC card under the properties of the installed network card.



12. If the server PC is directly connected to the IP Office control unit, adjust the NIC port settings to match the IP Office as follows. If connected via a LAN switch, check the LAN switch manufacturers documentation for details of the optimum port settings.

IP Office Control Unit	Use Port	Speed	Duplex
Small Office Edition	Any LAN port	100Mbps	Full duplex
IP406 V2	Any LAN port	100Mbps	Full duplex
IP412	LAN1	100Mbps	Half duplex
IP Office 500	LAN	100Mbps	Full duplex

13. Only when you have completed the above process should you proceed to **A3. Entering the IMS Licenses**.

A3. Entering the IMS Licenses

The Voicemail Pro must have licenses for itself, any additional voicemail ports required and for IMS. You must check that these have been entered into the IP Office systems configuration and that they are valid. IP Office 500 systems will also require the **IP500 Upgrade Standard to Professional** license.

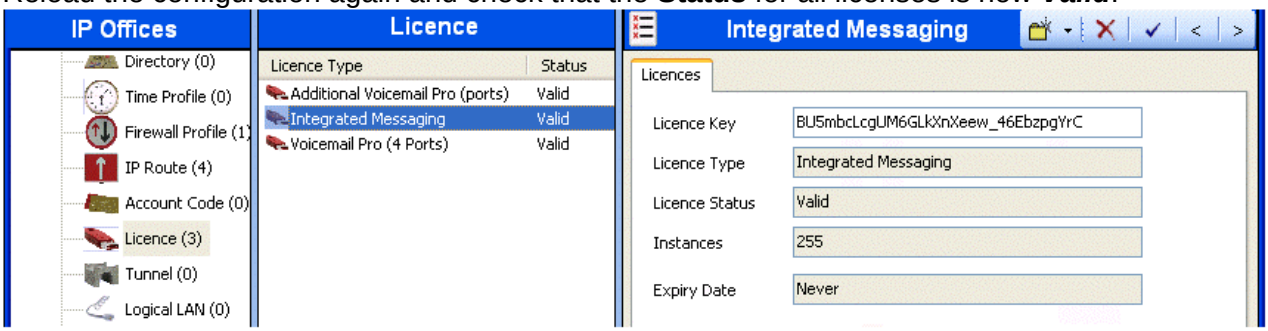
Without valid licenses the Voicemail Pro will operate for 2 hours before stopping and IMS will not operate at all.

The licenses supplied must match the serial number of the IP Office Feature Key. This is printed on the Feature Key and in IP Office 4.0 systems can be checked through the **Feature Key Serial Number** field on the **System | System** tab in IP Office Manager.

Checking Licenses

1. Do not proceed with this process until you have completed the steps in **A2. IMS Server Preparation**.
2. If not already in place, the IP Office Feature Key must be installed.
    1. **USB or Parallel Port Feature Key**
    These types of keys can be attached to the same PC as the Voicemail Pro server. The IP Office Feature Key Server application must be installed on the PC also. Check that the application is running and the key recognised before proceeding.
    2. **Serial Port Feature Key**
    This type of key is connected directly to the DTE port of the IP Office control unit. It does not require the Feature Key Server software to be installed on any PC.
    3. **IP Office 500 Smart Card Feature Key**
    This is the only type of Feature Key supported by IP 500 Office systems. It does not require the Feature Key Server software to be installed on any PC.
3. Start IP Office Manager and receive the current configuration from the IP Office system.
4. On the **System | System** tab, check that the **License Server IP Address** is set correctly. For USB and parallel port keys it should be set to the IP address of the PC hosting the key and running the IP Office Feature Key Server software. For the serial port keys it should be set to 0.0.0.0. For IP Office 500 systems the field is not used.
5. Select **Licence**.
6. If licenses have been entered already, check that their **Status** is listed as ***Valid***.
7. Click and select **License**.
8. Enter one of the supplied licenses for Voicemail Pro and IMS.
9. Click **OK**.
10. Repeat until all the licenses are entered.
11. Click to send the updated configuration back to the IP Office.

12. Reload the configuration again and check that the **Status** for all licenses is now ***Valid***.



- Note: This screen shot only shows the licenses for Voicemail Pro and IMS. Additional licenses may be present for other Voicemail Pro and IP Office features. Do not remove or alter any licenses.

13. If otherwise do not proceed any further until the issue with license validation is resolved.
14. Only when you have completed the above process should you proceed to **A4. Installing the IMS and Voicemail Pro Software**.

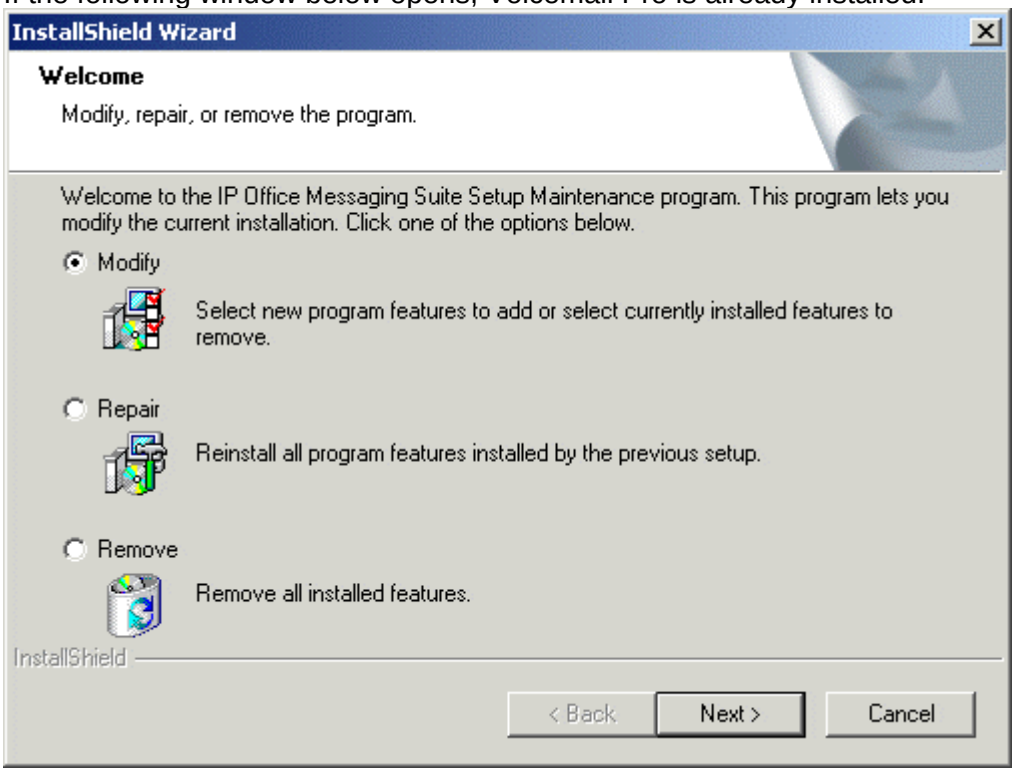
A4. Installing the IMS and Voicemail Pro Software

A-1-2-3-4-5-6-7-B

Do not start to install the IMS software before you have completed the necessary pre-installation checks.

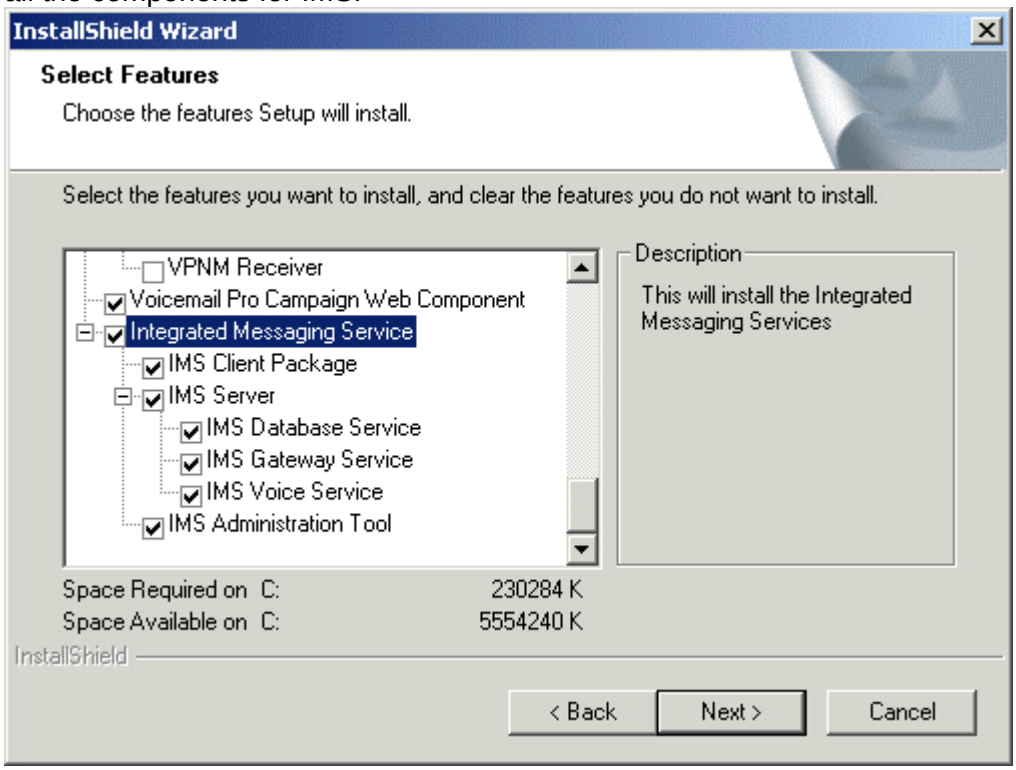
To install the IMS and Voicemail Pro Software:

1. Do not proceed with this process until you have completed the steps in **A3. Entering the IMS Licenses**.
2. Verify that you are logged in with the ***IMS*** account and that the account is a member of the Administrator group on PC or is a domain Admin.
3. Verify that Outlook is installed and setup for the ***IMS*** account and that you can send and receive emails.
4. Insert the IP Office Voicemail Pro CD. The installation should auto-start. If it does not auto-start, click **Browse** to locate **Setup.exe** on the CD and then run it. The **Choose Setup Language** window opens.
5. Select the installation language. This language is used for the installation and for the default language prompts.
6. Click **OK**. Installation preparation begins.
7. If the following window below opens, Voicemail Pro is already installed.



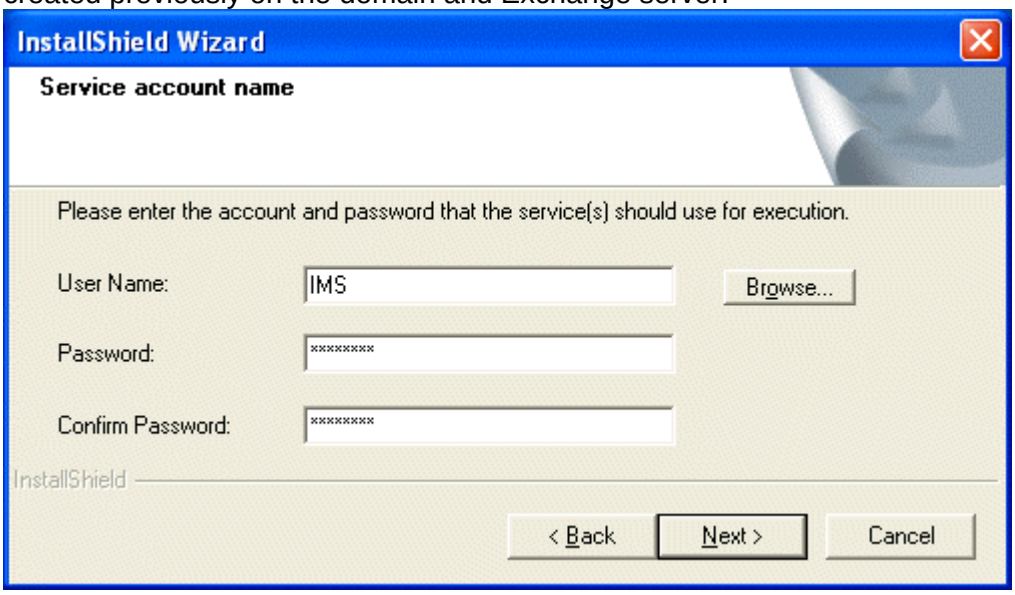
   1. Select **Modify** and click next to see if IMS has already been installed.
      - If IMS and Voicemail Pro have already been installed you will need to upgrade rather than install a new version. For more information, see Upgrading a Voicemail Pro System.
      - If Voicemail Pro has been installed but not IMS, backup the call flow as described in Upgrading a Voicemail Pro System and then uninstall Voicemail Pro and reboot the PC and proceed with the installation of Voicemail Pro and IMS.
8. In the **Welcome** window, click **Next**. The Customer Information window opens.

9. 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.
10. In the same window choose the option that determines who should be able to use Voicemail Pro when it has been installed. The recommended option is **Anyone who uses this computer (all users)**.
11. In the **Customer Information** window, click **Next**.
12. The **Choose Destination Location** window opens. Unless there are specific reasons for changing the location, the default setting is recommended. Click **Next**.
13. The **Messaging Components** window opens. Select **Voicemail Pro (Full)** and click **Next**.
14. The **Setup Type** window opens. In the **Setup Type** window, select **Custom**.
15. Click **Next**.
16. The **Select Features** window opens so that you can select which additional Voicemail Pro features to install. For IMS ensure that the settings are as follows:
    - Voicemail Pro Campaign Web Component is **not** required for IMS but is installed as part of a typical Voicemail Pro Server installation. If a web server has already been installed but the Voicemail Pro Campaign Web Component is not required, uncheck it to remove it. If Voicemail Pro Campaign Web Component is required for other use, make sure that it is checked so that it is not removed.
    - Ensure that **Voicemail Pro Client** and **Voicemail Pro Service** are checked.
    - Check any additional languages that are required. It is recommended that either **English** or **English US** is always selected (installed by default) in addition to any languages that are required by the customer.
        - **Important**
          Do not uncheck any other boxes as this will remove the corresponding software features.
    - Scroll down and check **Integrated Messaging Service**. That should automatically select all the components for IMS.



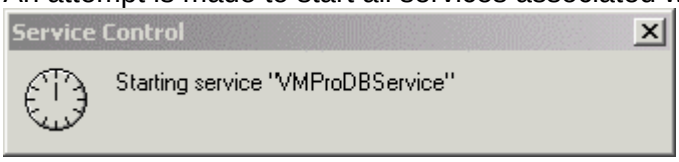
18. Click **Next**.

19. If you have chosen to install the Voicemail Pro Campaign Web Component, the **Select the Web Server root directory** window opens.
    1. Type the path to the folder where you would like to save the web campaign web pages. Alternatively, use the default location or click **Browse** and select a folder to use. Click **Next**.
    2. The **Select the Destination of the Script directory of Your Web** window opens. Type the path to the folder where the web campaign components are to be installed. Alternatively, use the default location or click **Browse** and select a folder to use. Click **Next**.
20. The **Service Account Name** window opens. Details of the default administrator account are already filled in.
21. In the **Service Account Name** window, type the **User Name** and **Password** for the IMS account created previously on the domain and Exchange server.

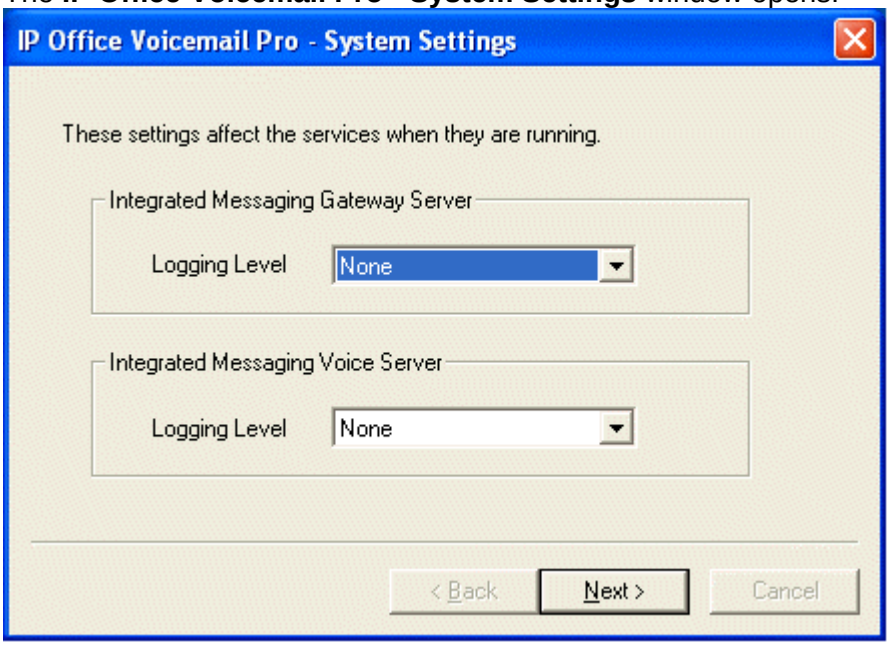


    - Alternatively, click **Browse** and select from the list of available network accounts. The IMS account should show up in the list. Verify that you can browse for this account. Make sure the IT manager has not hidden this account for Exchange or has separated this account in Active Directory.
22. Click **Next**.
23. The **Select Program Folder** window opens. It is recommended that you use the default folder, IP Office, which will already be shown. Click **Next**.
24. The **Start Copying Files** window opens. You are presented with a summary of the settings that you have chosen so far. Review the settings to make sure that they are what you expect. In particular, check that the required languages are listed. Scroll down if necessary. The minimum requirements for IMS are listed below. If for any reason the details are not what you expect, click **Back** and make the necessary changes.
    - Voicemail Pro
      - Voicemail Pro Client.
      - Voicemail Pro Service.
    - Integrated Messaging Service.
      - IMS Client Package.
      - IMS Database Service.
      - IMS Gateway Service.
      - IMS Voice Service.
      - IMS Administration Tool.
25. 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.

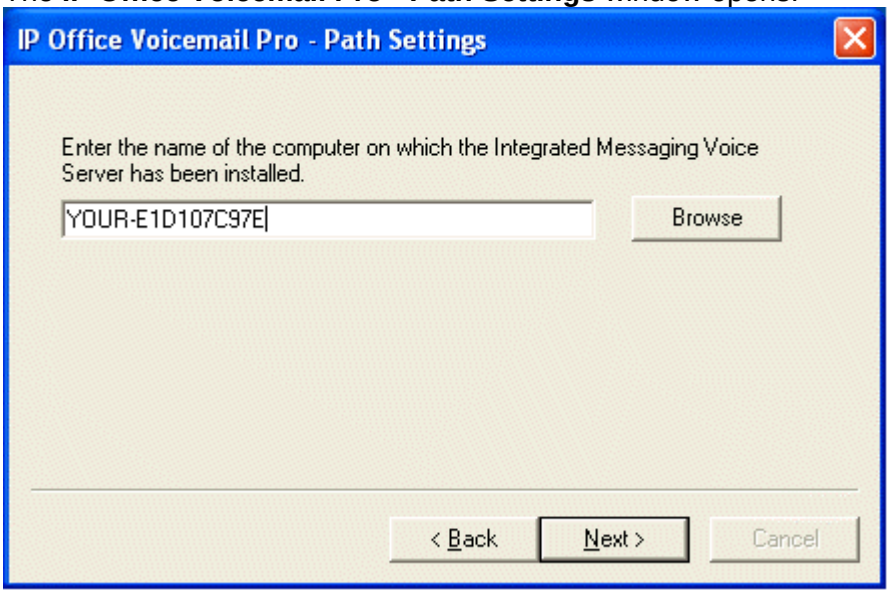
26. When the installation is complete, click **Finish** to restart now.
27. An attempt is made to start all services associated with Voicemail Pro and IMS.



28. After the services have started, the installation process continues.
29. The **IP Office Voicemail Pro - System Settings** window opens.

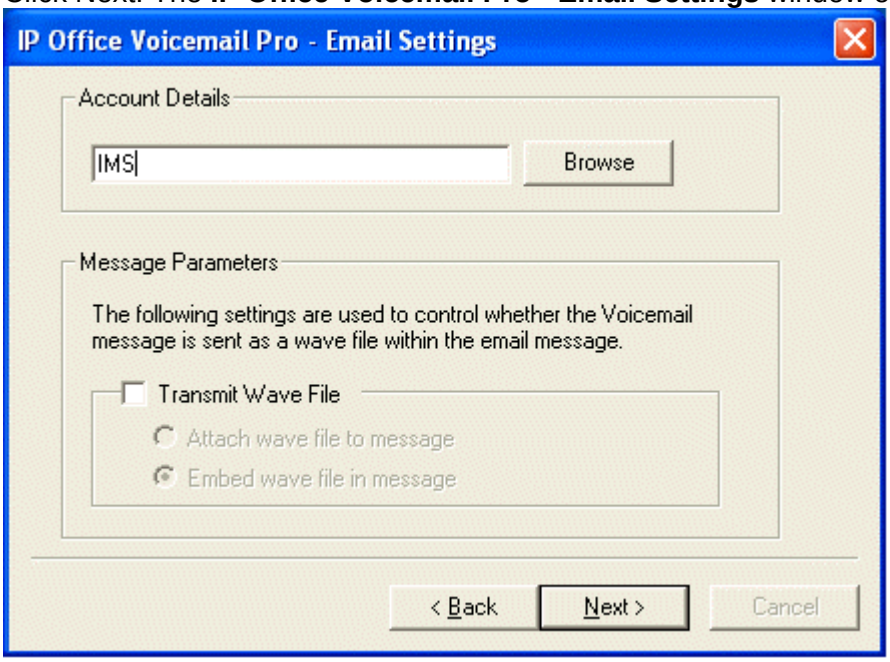


30. Select the required logging levels. Logging may be useful for fault diagnostics. You can switch logging off after you have verified that IMS is working correctly. Click **Next**.
31. The **IP Office Voicemail Pro - Path Settings** window opens.



32. Enter the name of the server PC on which Voicemail Pro and IMS have been installed. In most cases the name is detected automatically and filled in for you. If not, click **Browse** and provide the name of the Integrated Message Voice Server. If this fails it is most likely because the IMS Gateway Service is not running.

33. Click Next. The **IP Office Voicemail Pro - Email Settings** window opens.



34. In the **Account Details** field, type the name of the account ***IMS***. Alternatively, click **Browse** and find the IMS account.
    - If wav files of voicemail messages are to be sent in emails rather than left just in the voicemail mailbox check **Transmit Wave Files**. Sending .wav files across a network creates a high loading on the network and network servers. A one minute message requires a 1MB .wav file. Choose either:
        - **Attach wave file to message** to allow a recipient to copy a .wav file for use elsewhere.
        - **Embed wave file in message** to allow a recipient to embed a file in a message. An embedded file is compressed and therefore smaller than an attached file.
35. Click **Next**. The **IP Office Voicemail Pro - SMTP Email Settings** window opens. Note that IMS uses MAPI so this setting does not pertain to IMS but Voicemail to Email.
36. Click **Finish**. An attempt is made to validate the SMTP email settings. If the attempt to connect with the SMTP server fails, an error message is displayed. This can be ignored if SMTP is not being used (which it is not for IMS services).

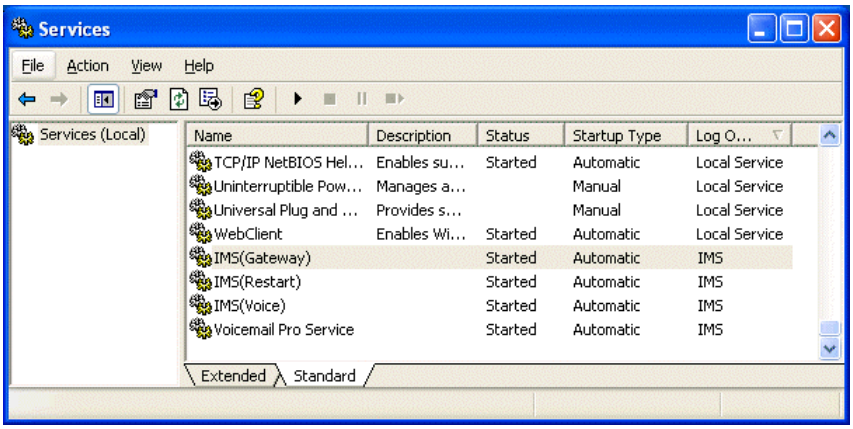
A5. Check the IMS Services

A 1 2 3 4 5 6 7 B

If Voicemail Pro has been installed successfully, the voicemail service is started automatically. However it is useful to check them and to know how to stop-start the services manually.

To check/restart the Voicemail Pro and IMS Services

1. Do not proceed with this process until you have completed the steps in **A4. Installing the IMS and Voicemail Pro Software**.
2. Open the Windows **Control Panel**.
3. Select **Administrative Tools** > **Services**.



4. The Voicemail Pro service and IMS services should be visible. Their **Status** should be ***Started*** and the **Startup Type** should be set to ***Automatic***.
5. The details should also show that the services are running under the IMS account.
6. If it necessary to manually restart the services, ensure that the following order is used: **VMProDBService** (if installed), **Voicemail Pro Service**, **IMS(Restart)**, **IMS(Voice)** and finally **IMS(Gateway)**.
7. Close **Services**.
8. Only when you have completed the above process should you proceed to **A6. Initializing the Call Flow**.

Using a Batch File to Start Services

In some instances, certain computers might not respond quickly enough in order to start all of the Avaya services in the correct order. In this circumstance, it can be advisable to create a batch file which will delay the start of these services until the PC 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 proper 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 VMProDBService
net start Voicemail Pro Service
net start IMS(Restart)
net start IMS(Voice)
net start IMS(Gateway)
```

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

A6. Initializing the Call Flow

This stage will check both that the Voicemail Pro Client can connect to the Voicemail Pro Server, and also initialize the call flows.

To Initialize the Voicemail Pro Call Flow:

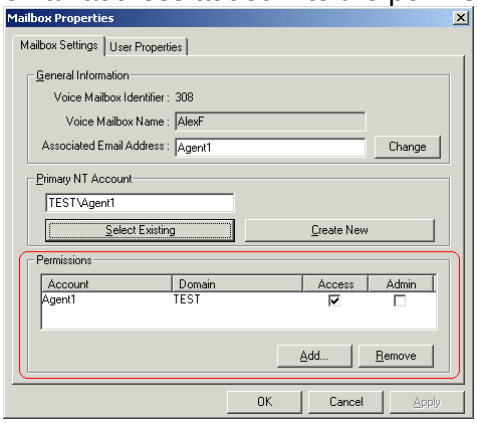
1. Do not proceed with this process until you have completed the steps in **A5. Check the IMS Services**.
2. Select **Start** | **Programs** | **IP Office** | **Voicemail Pro Client**.
3. The Voicemail Pro Client should start and display Connecting to the Local Server.
4. Once it has connected the various navigation panes should show content.
2. Click the  **Save and Make Live** icon.
3. Select **Yes**.
4. Voicemail operation can now be tested from an extension by dialing ***17**.
5. Only when you have completed the above process should you proceed to **A7. Associating Voice Mailboxes with Email Addresses**.

A7. Associating Voice Mailboxes with Email Addresses

When you have installed IMS, started the Voicemail Pro server, you are ready to associate the user voicemail mailboxes with email mailboxes on the Exchange Server. This is done using the IMS Administration tool.

To associate a voice mailbox with an email address

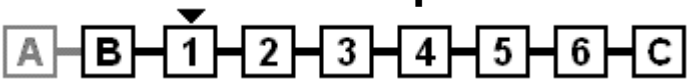
1. Do not proceed with this process until you have completed the steps in **A6. Initializing the Call Flow**.
2. From the **Start** menu, select **Programs | IP Office | IMS Administration Tool**.
3. From the **Server** menu, if the server is not already populated, select **Add**. The **New Integrated Messaging Server** window opens.
4. In the **Server** field, type the name of the IMS Server or click **Browse** and select a server. When the server has been added, the name is displayed with a **[+]** plus icon.
5. Expand the **[+]** icon to show configurable options.
6. Highlight **Integrated Messaging Associations**. After a few moments the voice mailboxes are displayed in the right-hand window.
7. Select a voice mailbox to configure and double-click it to see its properties.
8. In the **Associated Email Address** field, select **Change** and select the relevant email address of the associated user.
9. If the mail settings need to be different from the default settings, select the **User Properties** tab and configure as applicable and select **OK**.
10. In the **Primary NT Account** field click **Select Existing** and select the relevant domain user account of the associated user. Note, if the user is opening multiple inbox accounts all have to be added.
    1. IP Office Integrated Messaging Pro (IMS) clients may appear to respond slowly or even lock up where the IMS client user has defined one or more delegates in Microsoft Outlook. All delegates of an IMS Client's Outlook should have their domain account and email address added into the permissions field, with Access permission selected.



11. When complete, click the **Synchronize Mailboxes** icon to synchronize the mailboxes. Alternatively, click **Selecting Mailboxes** and **Synchronize** on the menu bar.
12. Close the **IMS Administration Tool**.
13. Make a call to one of the users that you have just associated and leave a message in their voicemail mailbox. A short while after hanging up a message should arrive in the user's mailbox.
14. Only when you have completed the above process should you proceed to **B1. IMS Client Requirements**.

B. IMS Client Installation

B1. IMS Client Requirements



During installation of the IMS Server, the IMS Client Installer package is copied to **C:\Program Files\Avaya\IP Office\Voicemail Pro\IMS\Client** and is automatically shared as ***IMSClient***. The installer, called **IMSClient.exe** is approximately 10.1MB is size. You need to install the IMS Client on the PC of each user who want to use IMS.

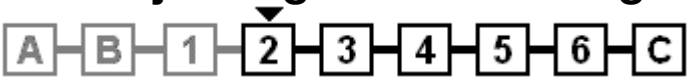
- **CRITICAL WARNING**
  Do not install the IMS Client on the same PC as the Voicemail Pro / IMS Server.

1. Do not proceed with this process until you have completed the steps in **A7. Associating Voice Mailboxes with Email Addresses**.
2. **Minimum PC specification for an IMS Client PC**
   These are minimum specifications and in most cases will not meet the customer's expectations for acceptable performance. The end user's PC should be a newer PC to meet the customer's expectations and will far exceed the minimum specs listed above.

RAM	HD	Pentium	Celeron	AMD	XP Pro	2000 Pro	2003
64MB	160Mb	800MHz	Celeron 3 800MHz	Althon B 650Mhz	✓	✓	✓

   - If the client PC is a Windows server, it must:
     - Meet minimum hardware and operating system requirements for an IMS server, see **IMS Server PC Requirements**.
     - Not be a Domain Controller.
     - Not be the Voicemail Pro / IMS Server.
3. Clients must use TCP/IP networking.
4. Users must be members of the same Domain as the IMS/Voicemail Pro Server.
5. The supported email services are MS Exchange 2000 and 2003.
6. The IMS client is supported with Microsoft Outlook 2000/2003 with cache mode off.
7. If you are the installer or system administrator, you must log on to the Client PC as the person who is going to be using the IMS software and you must have Administrator rights for that PC to install the software.
8. Outlook must already be installed and configured on the user's PC. Test this by using Outlook to send a test message.
9. The Integrated Messaging Server must already be installed and running.
10. Only when you have completed the above process should you proceed to **B2. Adjusting DCOM Settings**.

B2. Adjusting DCOM Settings



Microsoft have significantly increased the security around many operations included application access to functions such as email. The following DCOM changes are therefore essential for support of IMS and must be performed before installing the IMS Client.

The DCOM changes can be done either through a security policy that is then applied to all PCs in the domain, otherwise the individual settings on each client PC must be adjusted.

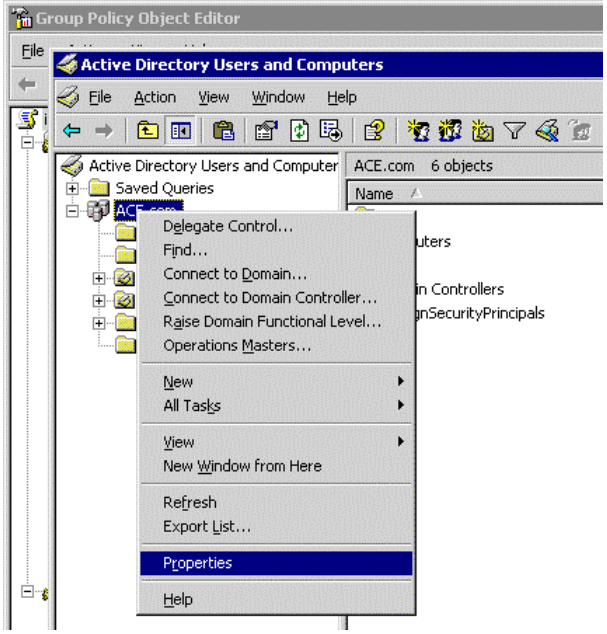
To set the Client PC's DCOM Settings

1. Do not proceed with this process until you have completed the steps in **B1. IMS Client Requirements**.
2. Using one of the methods described below, ensure that the DCOM settings of the client PC are adjusted to support interaction with the IMS server.
    - **B2a. Setting the Changes on a DCOM Security Policy.**
    - **B2b. DCOM Settings for a Windows 2000 PC.**
    - **B2c. DCOM Settings for XP Pro and Windows 2003 PC's.**
3. Only when you have completed the above process should you proceed to **B3. Installing the IMS Client Software**.

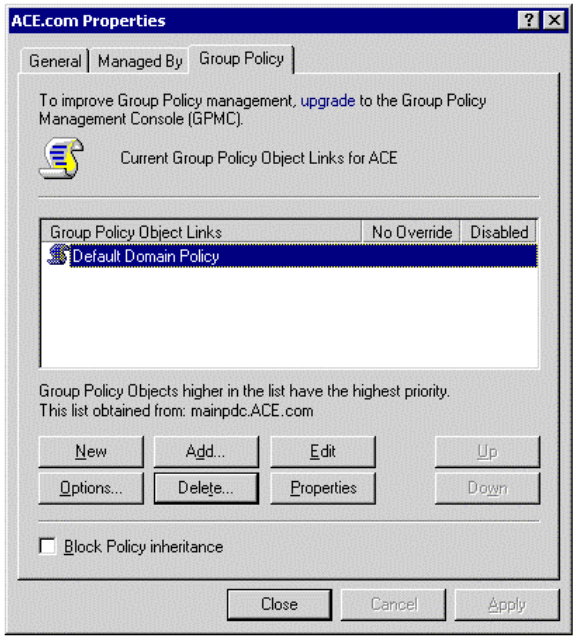
B2a. Setting the Changes in a DCOM Security Policy

Setting all DCOM security settings for a domain to work with IMS. After setting the DCOM options, this is now a domain wide policy and when the IMS clients are installed and the computer is rebooted and the user logs on, these settings will be pushed to the end user. Doing this as a policy simplifies the installation process for IMS.

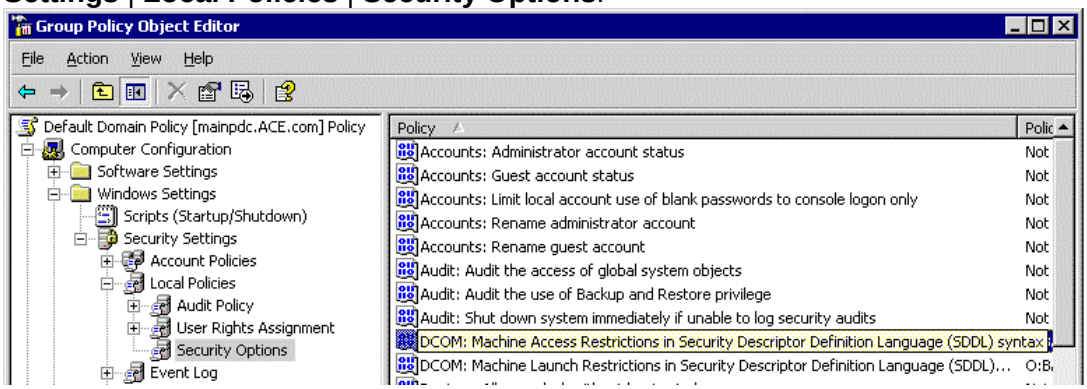
1. On the domain controller, open **Active Directory Users and Computers**, right click on the domain to be administered and select **Properties**.



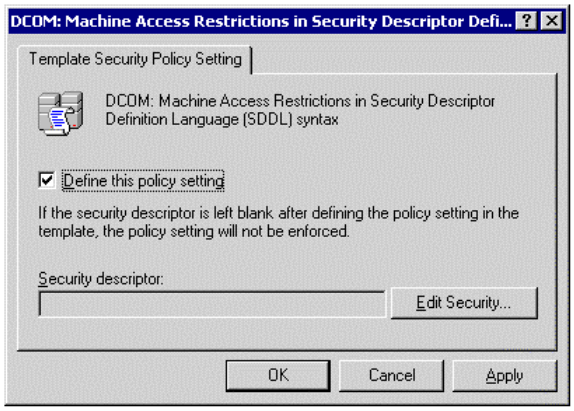
2. Select the **Group Policy** tab.



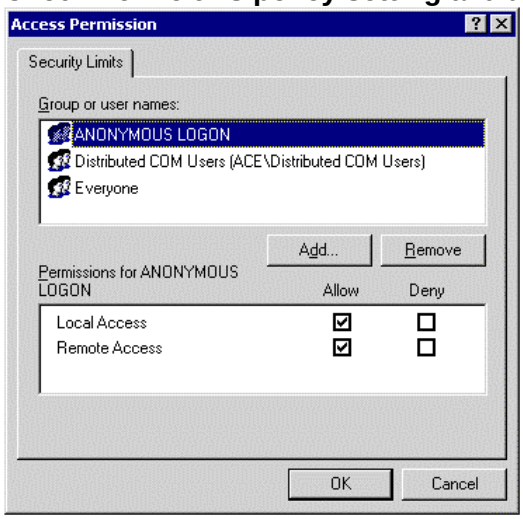
3. Double click **Default Domain Policy**. Drill down to **Computer** | **Windows Settings** | **Security Settings** | **Local Policies** | **Security Options**.



4. Search for the **DCOM Machine Access Restrictions ...** entry and double click on that entry.



5. Check **Define this policy setting** and then click **Edit Security**.

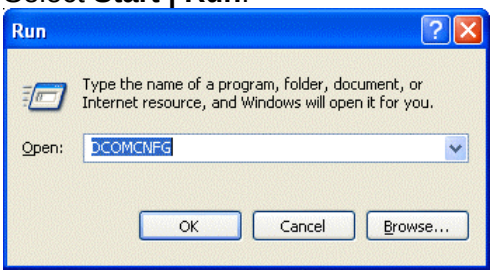


6. Add the **Everyone** and **Anonymous Logon** users and set them to **Allow** for remote and local access. Click **OK**.
7. Click OK.
8. Repeat this process for all DCOM entries.

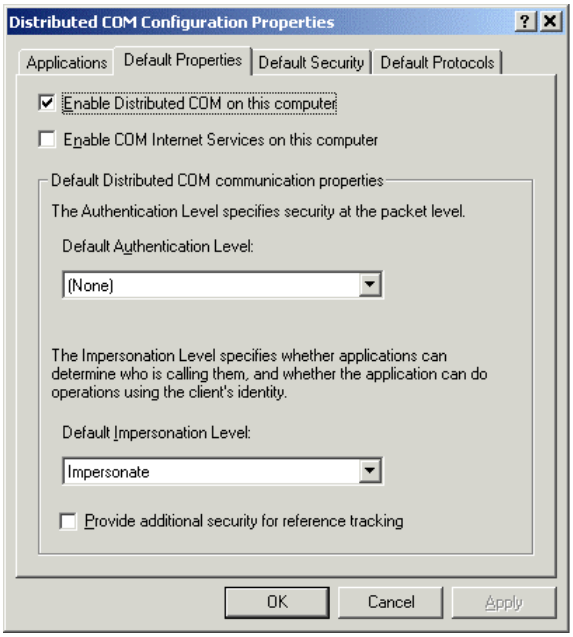
B2b. DCOM Settings for a Windows 2000 PC

This process adjusts the DCOM settings on an individual PC running Windows 2000.

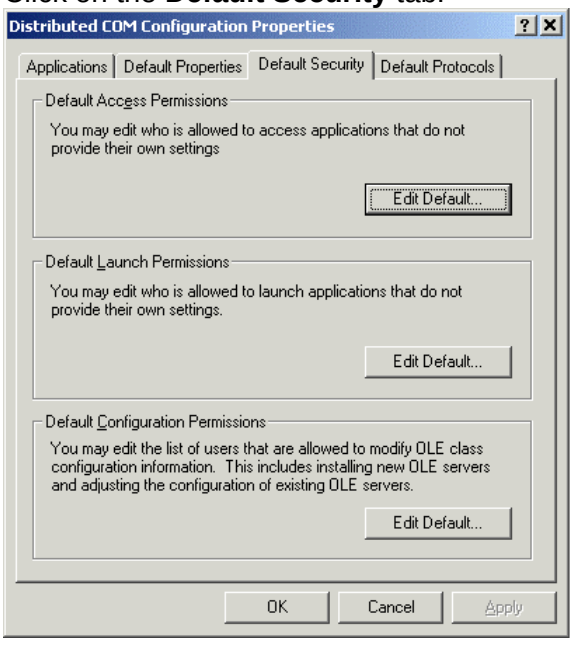
1. Select **Start | Run**.



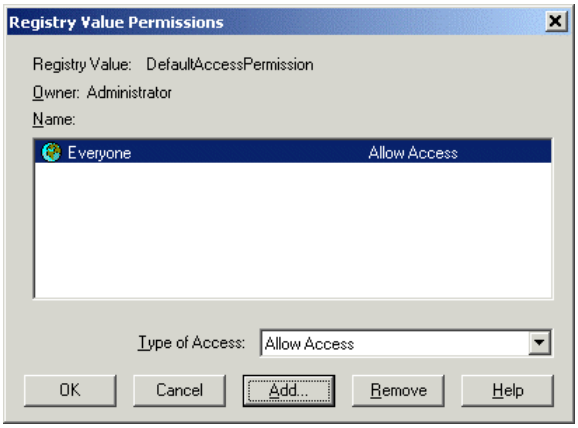
2. Enter **DCOMCNFG** and click **OK**.



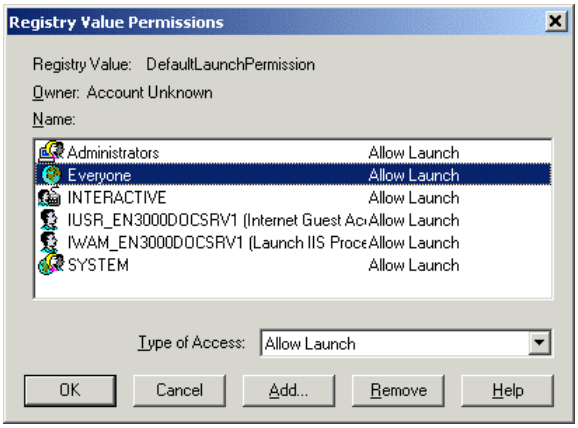
3. On the **Default Properties** tab, set the following:
   - **Enable Distributed Com on this computer.**
   - **Default Authentication Level** set to "**NONE**"
   - **Default Impersonation Level** set to "**Impersonate**".
4. Click on the **Default Security** tab.



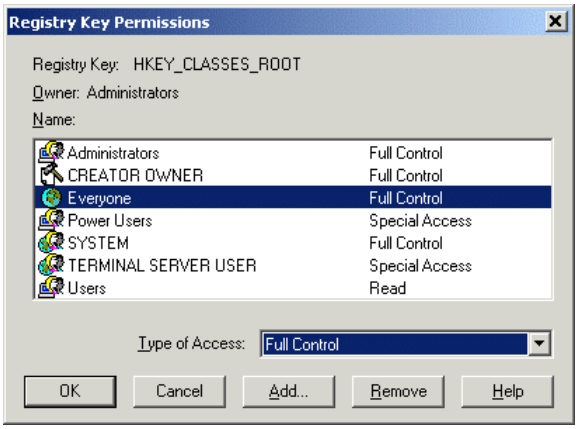
5. Click on the **Edit Default** button for **Default Access Permissions**.



6. The **Everyone Group** should have ***Allow Access*** set. Click **OK**.
7. Click on the **Edit Default** button for **Default Launch Permissions**.



8. The **Everyone Group** should have **Allow Launch** set. Click **OK**.
9. Click on **Edit Default** button for **Default Configuration Permissions**.

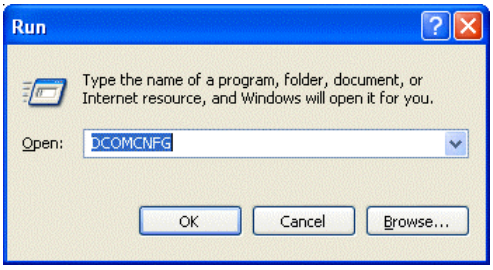


10. The **Everyone Group** should have **Full Control** set. Click **OK**.
11. Click **Apply**.
12. Click **OK**.
13. Reboot the PC.

B2c. DCOM Settings for XP Pro SP2 and Windows 2003 SP1 PCs

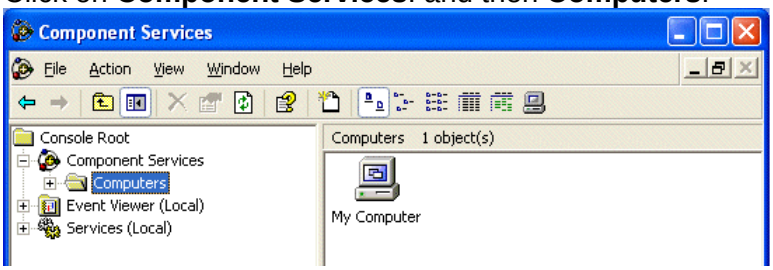
This process adjusts the DCOM settings on an individual PC running either Windows XP Pro SP2 or Windows 2003 SP1.

1. Select **Start** | **Run**.
2. Enter **DCOMCNFG** and click **OK**.

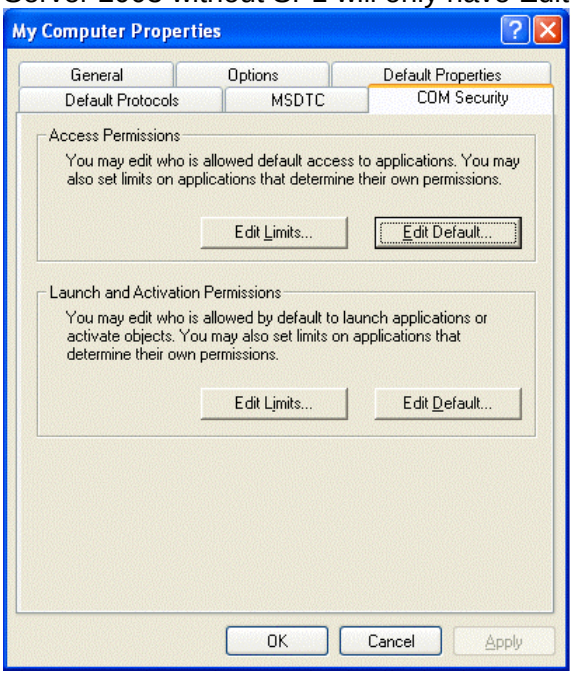


   - Windows XP may attempt to block the Microsoft Management Console. Select **Unblock** to continue.

3. Click on **Component Services**. and then **Computers**.

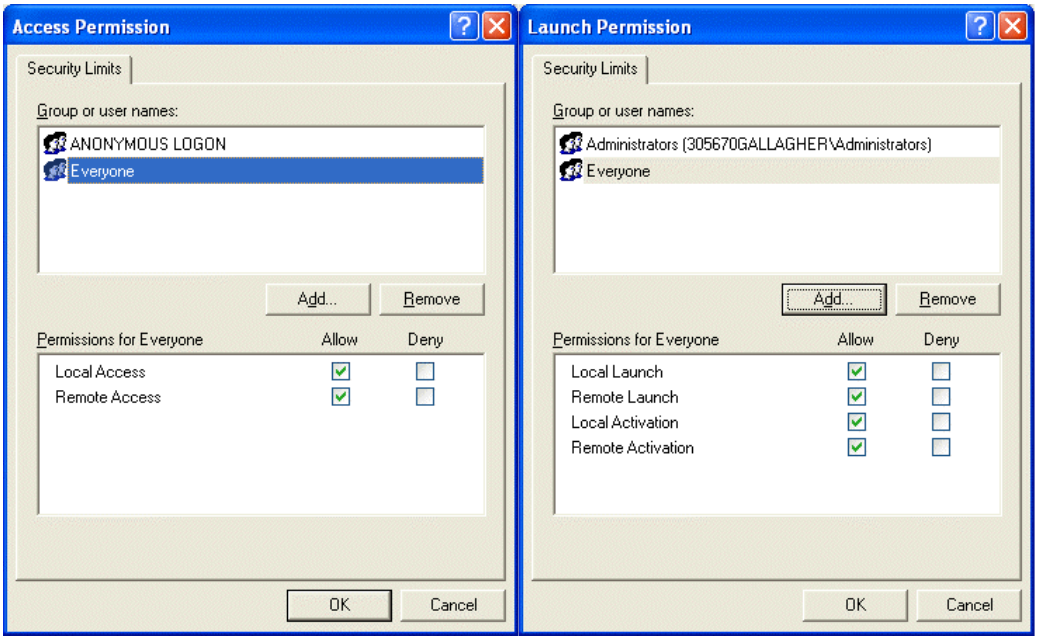


4. Right click on **My Computer** and choose **Properties**.
5. Select the **COM Security** tab. Note: Windows XP , Windows XP Service Pack 1 and Windows Server 2003 without SP1 will only have Edit Defaults.

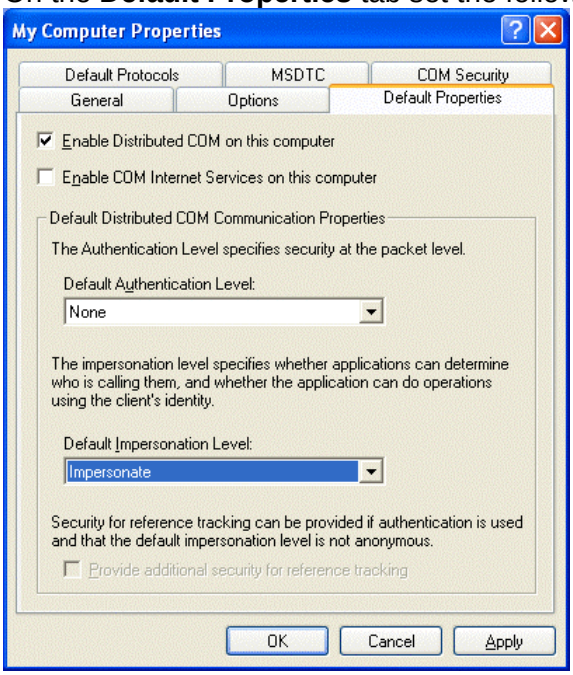


6. Edit the limits for **Access Permissions** and **Launch and Activation Permissions** to allow **Remote Access** and **Remote Launch/Activation** permissions for **Anonymous Logon** and **Everyone**. Note: Windows XP, Windows XP SP1, and Windows 2000 Server grant the **Everyone**

all Permissions.



7. On the **Default Properties** tab set the following:



- **Enable Distributed Com** on this computer.
- **Default Authentication Level** set to ***NONE***.
- **Default Impersonation Level** set to ***Impersonate***.

8. Reboot the PC.

B3. Installing the IMS Client Software

To install the IMS Client software:

1. Do not proceed with this process until you have completed the steps in **B2. Adjusting DCOM Settings**.
2. Copy the IMS Client installer package to a CD or map a network drive to the folder as follows ***\\VMProIMSPC\IMSClient***. This is done automatically when you install IMS on the Voicemail Pro/IMS server.
3. Log on to the user's PC using the user's account.
4. Verify that the user has local administrative rights to be able to install the software. Once installed they should not need administrator rights to use the application.
5. Save and close all other applications prior to installing as a reboot will be required.
6. Depending on where it is located, double-click the **IMSClient.exe** file.
7. Choose the preferred **Language** and select **OK**.
8. Click **Next** until you see the IMS Connection Information window.
9. Enter the following information:
    - **Voicemail Mailbox**
      This is the entry as it appears in the Username field of the IP Office User Profile Screen. This is case-sensitive. If this information is not entered correctly, the IMS client will not connect to the IMS Server.
    - **IMS Server**
      This is the name of the IMS/Voicemail Pro Server.
10. Click **Next**. The IMS Playback Parameters window opens.
11. Type the extension number of the handset to be used for playing back messages.
12. If required, check **Pick Up Automatically** for the option to collect messages without the need to pick up the handset. This is supported on analog extensions.
13. When prompted to **Restart the PC**, click **Finish** to restart the PC.
    - If you attempt to open Outlook without restarting the computer, you will receive an error to tell you a component has not been installed correctly. It is therefore recommended that you restart the computer when prompted.
14. Typically when starting Outlook if there is a connection error, a message should be received while Outlook is starting, asking for a user name and password.
    1. On the Outlook Menu Bar, Select Tools – Integrated Messaging. If the IMS Client has connected you should only have the option to Disconnect. If this is the case you have successfully installed the IMS Client on the workstation.
    2. A further indication will be a Telephone Icon in the mail message. If the Client has not been installed, this icon will not be displayed.
15. Only when you have completed the above process should you proceed to **B4. Opening the Firewall**.

B4. Opening the Firewall

It is necessary to create firewall exceptions for the IMS client application after its installation. Even if the user does not have a firewall or uses a firewall other than the default Windows firewall, it is recommended that the process for the Windows firewall is applied.

If the firewall being used is the default Windows Firewall, the necessary exceptions can be setup by running the batch file AvayaFW.bat. This file is available from the http://marketingtools.avaya.com/knowledgebase/tools/firewall. It is recommended that this file is running even if the user is not using the firewall.

1. Do not proceed with this process until you have completed the steps in **B3. Installing the IMS Client Software**.
2. Unzip **AvayaFW.bat** from the **AvayaFW.zip** file.
3. If the path to which applications are being installed is not the default, modify the %ProgramFiles% setting within the file.
4. Run the batch file on the user's PC.

Settings for Other Firewalls

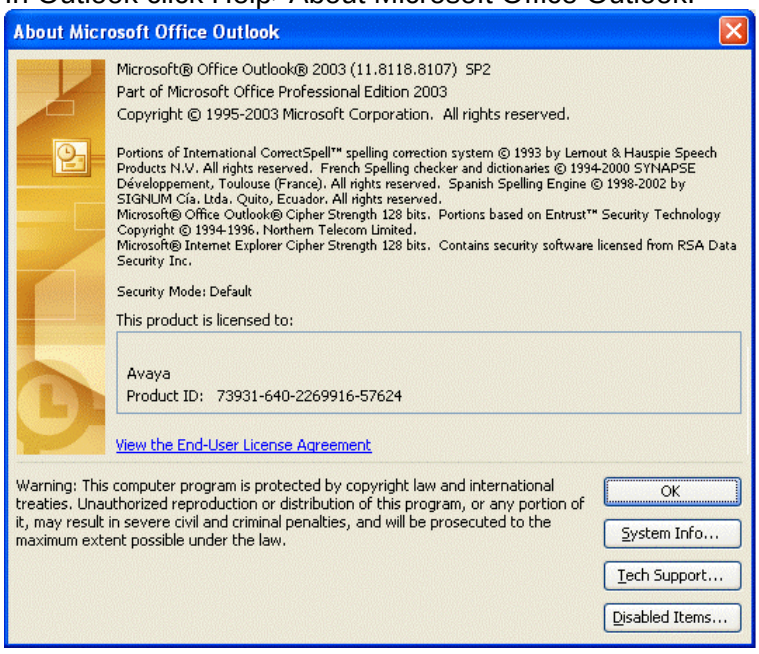
If the user's PC uses a firewall other than the default Windows firewall, the method of setting up the necessary exceptions will vary. For the IMS Client the necessary exceptions are:

- C:\ProgramFiles\Avaya\IMS Client\UMSForm.exe
- UDP Port 67
- UDP Port 69
- TCP Port 135
- TCP Port 2000
- UDP Port 50791
- UDP Port 50799

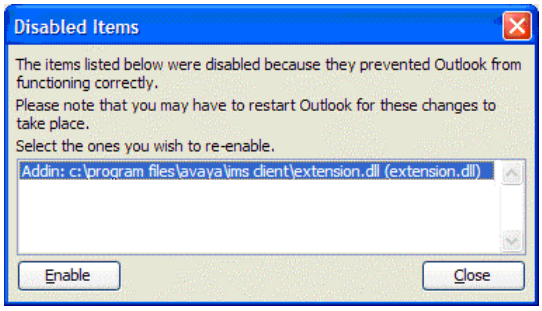
B5. Testing IMS Client Installation

Typically, when starting Outlook if there is a IMS connection error, a message may be received while Outlook is starting, asking for a user name and password. Please recheck the DCOM settings and verify that the Windows Firewall exceptions have been setup properly. Next verify that the IMS client has been installed properly.

1. Do not proceed with this process until you have completed the steps in **B4. Opening the Firewall**.
2. In Outlook, select **Tools > Integrated Messaging**.
3. If the IMS Client has connected you should only have the option to **Disconnect**. If this is the case you have successfully installed the IMS Client on the workstation. If you can not connect:
    1. Verify that the mailbox is set properly to the user's Name in Manager.
    2. Check that the proper Voicemail Pro machine name was given when installing the client software.
    3. Check the DCOM settings or the Windows Firewall settings not being modified.
4. If the Integrated Messaging tab does not show up in **Outlook Tools > Integrated Messaging** or under **Tools>Options>Integrated Messaging**, verify that the **IMS Client** has not been disabled in Outlook.
    1. In Outlook click Help>About Microsoft Office Outlook.

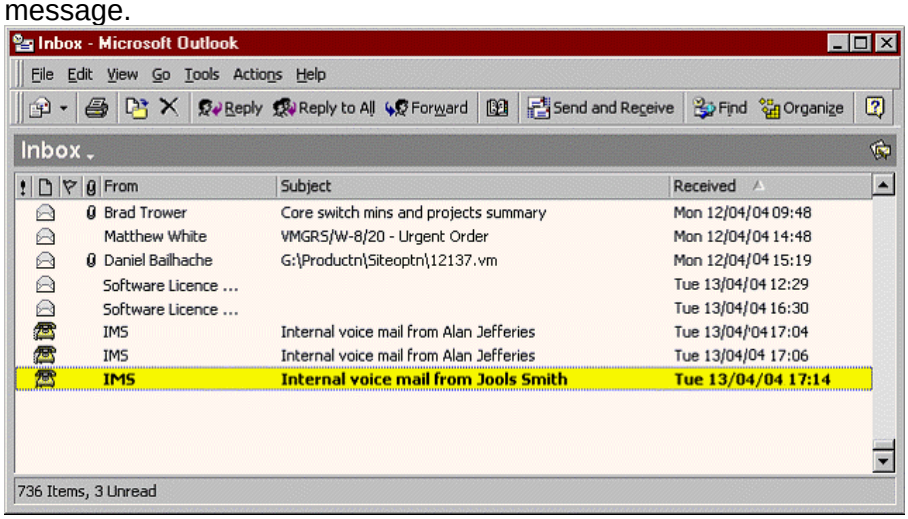


    2. Click **Disabled Items**. If the IMS Client is listed, select it and click **Enable**.



    3. You will have to close and reopen Outlook for it to appear.

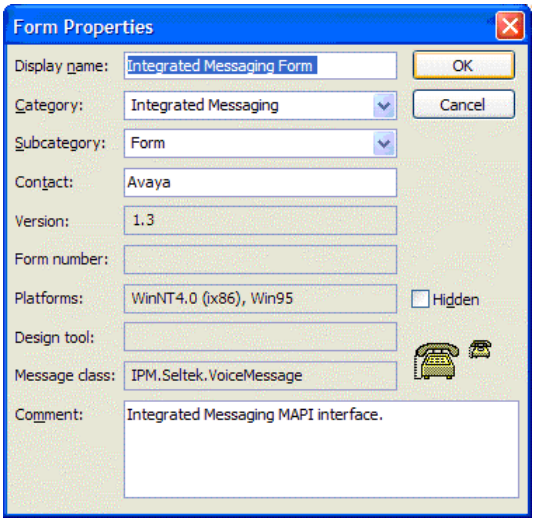
4. You should see a **Telephone Icon** in the mail message when you have a voicemail message.



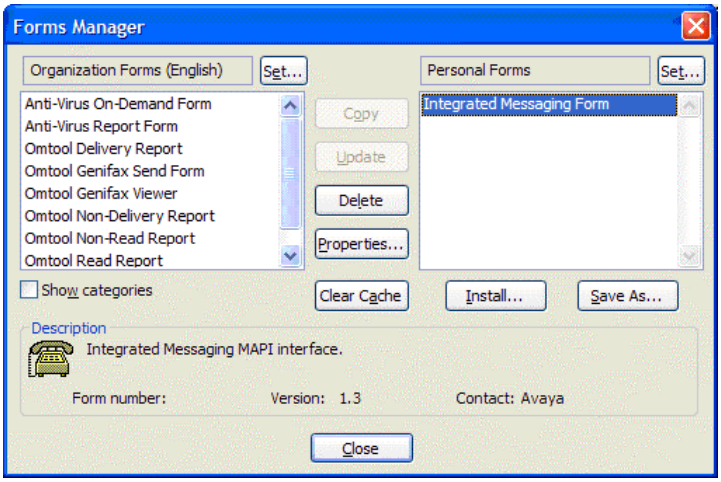
5. If the Client has not been installed, or has not been installed correctly, the telephone icon will not be displayed. Try uninstalling rebooting and reinstalling. Alternatively you may have to manually install the form as detailed below.
6. Only when you have completed the above process should you proceed to **B6. Observing Exchange Operation**.

To Manually Install the Form

1. In Outlook select **Tools** | **Option**s.
2. Select the **Other** tab.
3. Click **Advanced Options**.
4. Click **Custom Forms** and then **Manage Forms**.
5. Click **Install** and browse to and select ***C:\Program Files\Avaya\IMS Client\UMSForm.CFG***.



6. The form properties are shown. Select **OK**.
7. The IMS form should now be listed.



8. Click **Close** and then **OK**, **OK**, **OK**.
9. Close and restart Outlook.

B6. Observing IMS Exchange Mailbox Operation

It is useful to check that the IMS Account has logged onto the Exchange Server correctly.

To check and observe IMS operation:

1. Do not proceed with this process until you have completed the steps in **B5. Testing IMS Client Installation**.
2. On the Exchange server, open the **Exchange Administration Manager**.
3. Expand the **Server Name and Mailbox Store**.
4. Select **Logons** and locate the IMS account name. Only logged on accounts are displayed.
5. Select **Mailboxes** to view IMS messages being received and sent.
6. Leave a voicemail message in an IMS user's voice mailbox.
7. After hanging up you should notice that for a brief time the **Total Items** field for the IMS mailbox increases by 1. The message is then sent from the IMS mailbox to the user's mailbox, whose **Total Items** increases by 1. By default, there should be no messages left in the IMS mailbox.

C. Maintenance

Upgrading a Voicemail Pro Server with IMS

Upgrade from Voicemail Pro 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.

Make sure you are logged in as the IMS account.

To upgrade from below Voicemail Pro version 3.2 to version 4.0:

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.
   7. The next step is to back up the registry so that you do not lose any Voicemail Pro settings from the previous version.
2. **Back up the Registry**
   Any registry settings that are associated with Voicemail Pro need to be backed up.
   1. Insert the Voicemail Pro CD for the new Voicemail Pro and cancel the install wizard that auto runs.
   2. Right-click the CD drive and select **Open**.
   3. Locate the file **backupreg.bat** and double-click it to run the application. The registry settings are backed up.
   4. The next step is to remove Voicemail Pro. Verify that the 3 files were created successfully and they have the appropriate data.
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. Select **Add/Remove Programs**.
   3. Select **IP Office Voicemail Pro** and click **Add/Remove**.
   4. From the options offered, select **Remove** and click **Next**.
   5. Follow the prompts that you see on the screen during the removal process.
   6. When the process has been completed, select the option **Yes, I want to restart my computer now** and click **Finish**.
   7. Please note is it necessary to reboot the server. Do not skip this step.
4. After the server reboots and you have logged back in as IMS.

5. **Restore the Registry**
   The Voicemail Pro registry that was backed up in step 2 needs to be restored.
   1. Right-click the CD drive that contains the Voicemail Pro CD and select **Open** (reinsert the CD if necessary and cancel the install wizard).
   2. Locate the file **restorereg.bat** and double-click it to run the application. This restores the registry settings previously associated with Voicemail Pro.
   3. Verify that the registry entries have been restored successfully.
   4. Start the Voicemail Pro GUI.
   5. From the **File** menu, select the option **Import or Export**.
   6. Select the option **Import Call Flows** and click **Next**.
   7. Use the **Browse** button to locate the backup file then click **Next**.
   8. Click **Finish** to start the import then click **Close** to complete the import procedure.
6. **Install the New Software**
   The next step is to install the upgrade software. For more information see Installing Voicemail Pro: Overview above and then refer to the sections that relate to the type of Voicemail Pro that you intend to install.
7. **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**.
   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 **Save and Make Live**.
8. 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.

Upgrade from Version 3.2

You can upgrade from IP Office Voicemail Pro 3.2 to IP Office 4.0. If you upgrade you can still use a 3.2 Voicemail Client to update Voicemail Pro 4.0. However, if you want to change any of the new features, for example the Outcalling preferences or to use the start points for Personal Announcements, you will need to use the latest Client version of IP Office Voicemail Pro.

To upgrade from version 3.2:

1. Stop the all Voicemail Pro services running. It would be a good idea to make a backup of the registry and the Call flows and if possible the Voicemail Pro folder before proceeding.
2. Insert the new **IP Office Voicemail Pro CD**. The installation should auto-start. If it does not auto-start, click Browse to locate **Setup.exe** on the CD and then run it. The **Choose Setup Language** window opens.
3. Select the installation language. The language selected is used for the installation.
4. Click **OK**. You are asked '***This setup will perform an upgrade of IP Office Voicemail Pro***'. Do you want to continue?
5. Click **Yes**. The Upgrading the IP Office Voicemail Pro window opens.
6. Click **Next** to start the upgrade. The setup status window opens. The progress of the upgrade is indicated by a time bar. When the InstallShield Wizard complete window opens.
7. Click **Finish.** The Email settings window opens.
8. Enter your email account details and click **Next**. The IP Office Voicemail Pro Control Panel applet settings window opens.
9. Enter your settings for each form and click **OK**.
10. Click **Yes** when asked if you want to start the Voicemail Pro service.
11. Reboot the PC and verify that the services start properly and that the voicemail is fully functional.
12. 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

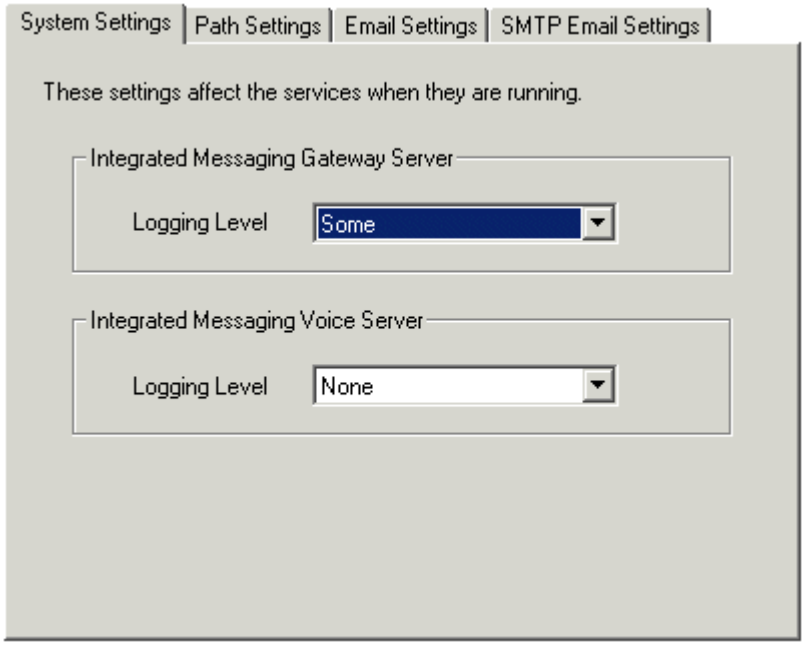
Specifying the Level of IMS Service Logging

If IMS is installed the Systems Settings tab is available. You can specify the level of service logging for the IMS Gateway Server service and the IMS Voice Server service. Four levels of logging are available, with increasing level of detail.

Typically logging is required only if IMS problems are being experienced and diagnosis is required. The information is logged in the Event Viewer application.

To specify the level of IMS service logging:

1. Open the Windows Control Panel.
2. Select **IP Office Voicemail Pro**. The IP Office Voicemail Pro window opens.
3. Click the **System Settings** tab.



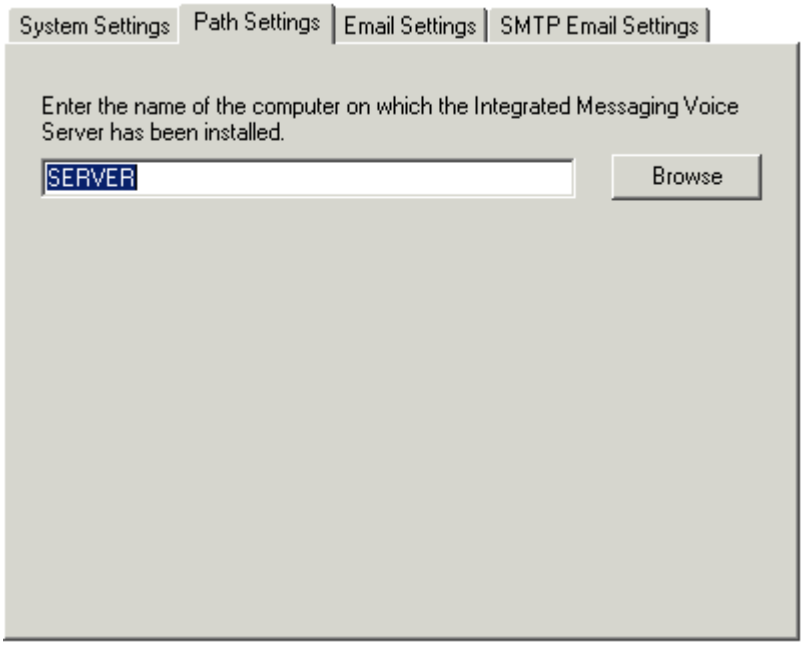
4. In the **Logging Level** boxes, select the level to use for each of the IMS services.
   - **None** - No logging recorded.
   - **Some** - A low level of logging recorded where only errors are logged.
   - **Most** - A medium level of logging where errors and warnings are recorded.
   - **All** - All errors, warnings and information are logged.
5. Click **Check** to validate the changes that you have made.
6. Click **OK**. You are prompted to restart the affected services so that your changes are enabled.
7. Choose **Yes**. The services that are affected by your changes are automatically stopped and restarted.

Specifying the Name of the Host Server PC for IMS

If IMS is installed the Path Settings tab is available. You need to specify the computer name of the server PC that is hosting the IMS Voice Service. Typically, this is installed on the same server PC as the Voicemail Pro Server.

To specify the name of the host server PC for IMS:

1. Open the Windows Control Panel.
2. Select **IP Office Voicemail Pro**. The IP Office Voicemail Pro window opens.
3. Click the **Path Settings** tab.



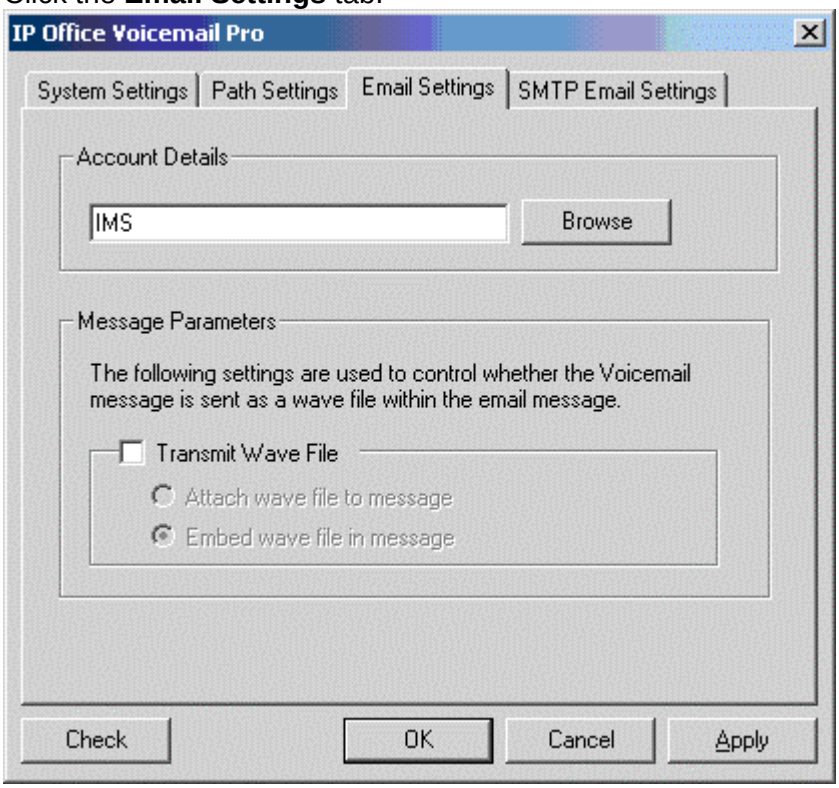
4. Type the name of the computer on which the IMS Voice Service has been installed.
    - Alternatively, click **Browse** and select the name of the computer.
5. Click **Check** to validate the changes that you have made.
6. Click **OK**. You are prompted to restart the affected services so that your changes are enabled.
7. Choose **Yes**. The services that are affected by your changes are automatically stopped and restarted.

Configuring the IMS Email Settings

You can configure certain email settings such as the account to use for email and the way in which .wav files are transmitted.

To configure email settings

1. Open the Windows Control Panel.
2. Select **IP Office Voicemail Pro**. The IP Office Voicemail Pro window opens.
3. Click the **Email Settings** tab.



4. In the **Account Details** box, type the name of the MAPI email account (***IMS***) to use for email messages. Alternatively, select Browse to display a list of available email accounts.
    - For IMS you should be using the IMS account setup previously. If Outlook is installed properly you should be able to browse for this account. If you are able to browse but are not able to see the IMS account, verify that the IT manager has not hidden the account in Exchange.
5. Click **Check** to validate the changes that you have made.
6. The Message Parameters options are only available if you have installed IMS. For IMS you can specify the way in which the .wav files of voicemail messages are to be sent in emails. Sending .wav files across a network creates a high loading on the network and networks servers. A one-minute message requires a 1MB .wav file.
    1. To transmit .wav files, check the **Transmit Wave File** box.
    2. Choose the option for transmitting the .wav files. Choose either:
        - **Attach wave file to message** to allow a recipient to copy a .wav file for use elsewhere.
        - **Embed wave file in message** to allow a recipient to embed a file in a message. An embedded file is compressed and therefore smaller than an attached file.
7. Click **OK**.

Troubleshooting DCOM Issues

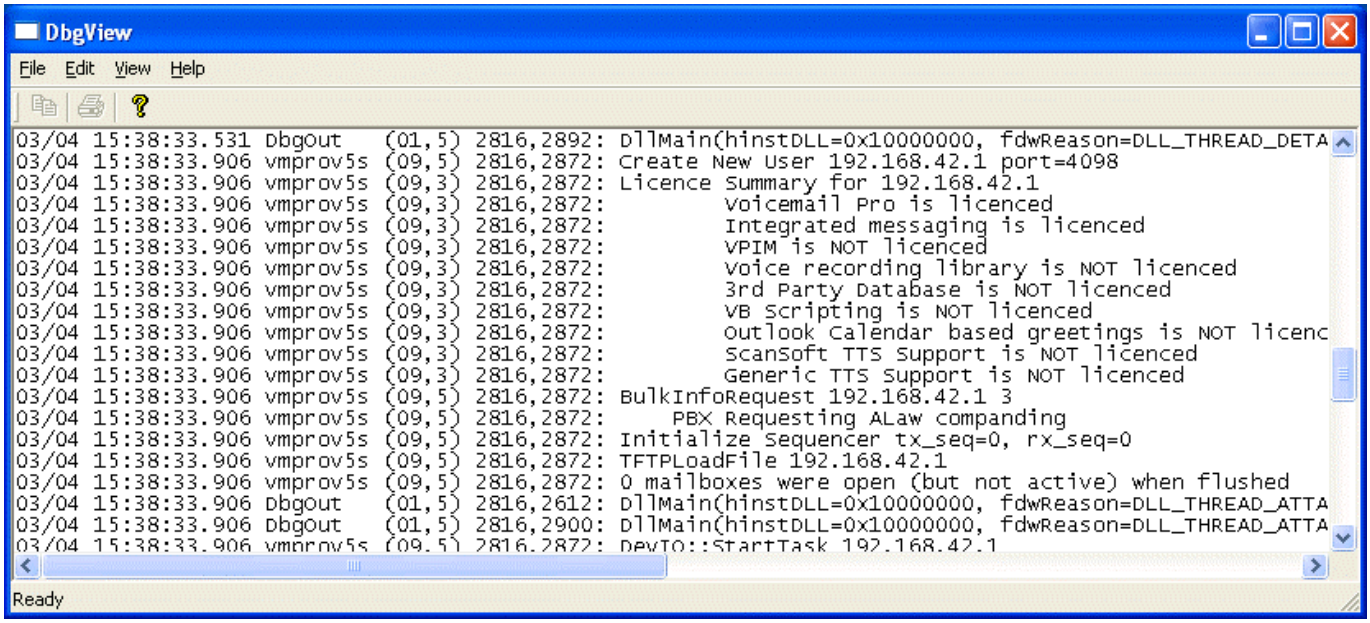
Checking both the following options allows DCOM errors to be seen.

- **Enable Auditing**
  When you first set up a Windows server or Workstation, the default setting for system wide audits is "disabled". Turn on failure audits by using the user manager program, again accessing the Policies menu. This time, click on the "Audits" selection. Enable audits and select all of the "failure" check boxes and click OK. At this point, any DCOM security problems will start to show up in the system event log on the system where they occurred.
- **Check Batch Job Permissions**
  The second cause is that the package is configured to run as specific identity, but that identity doesn't have "log in a batch job" permissions. This is far more common and easily distinguished by testing the component with package identity set to 'interactive user'. If the application will start up as the interactive user, but not as the specific identity, then either the identity being used is no longer valid (which generates a security failure log message in the system security log) or the "log in as batch" permission hasn't been granted to that ID (which generates the weird MTS message).
    1. In Windows 2000, enable these options as follows:
    2. On the Start menu, select **Programs** | **Administrative Tools** | **Local Security Policy**.
    3. On the left-hand pane, you see a tree view. Click the plus (+) sign at the left of the Local Policies, and you see the Audit Policy entry.
    4. Select the Audit Policy entry, and note that the right pane contains all audit options, which one is enabled and which one is not. Right-clicking at any of these options allows you to enable or disable them.
    5. Enable auditing for success and failure for the following options: Audit logon events, Audit object access, Audit privilege use.
    6. Close the Local Security Policy window.

Once you have activated these logging options, test your client again. After you get the error message, use Event Viewer to see if there are any DCOM events. The event may tell you why access was denied. Also, it can tell you who is logged on to the client computer and if this is a domain user or a local user. It can tell you that the protocol requested by the client is not available on the server, and so forth. COM logs are usually added to the system log.

Tracing in Debug

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

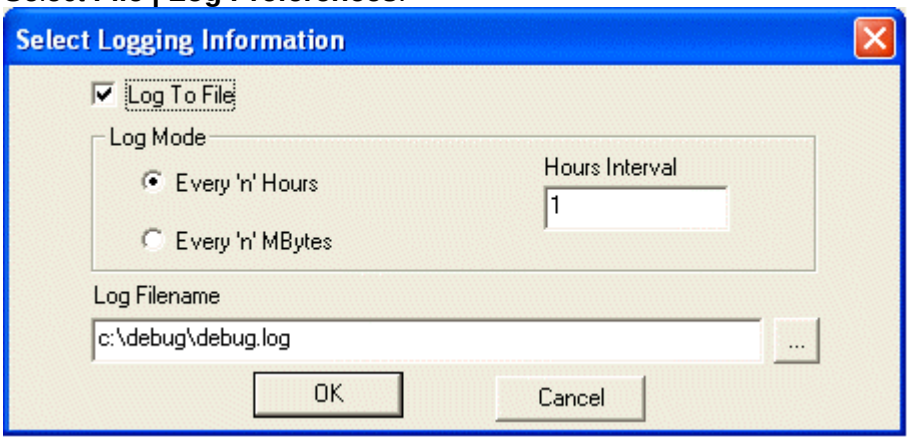


Installation

1. Download the zip file.
2. Unpack the files into a folder such as c:\debug on the server PC.
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

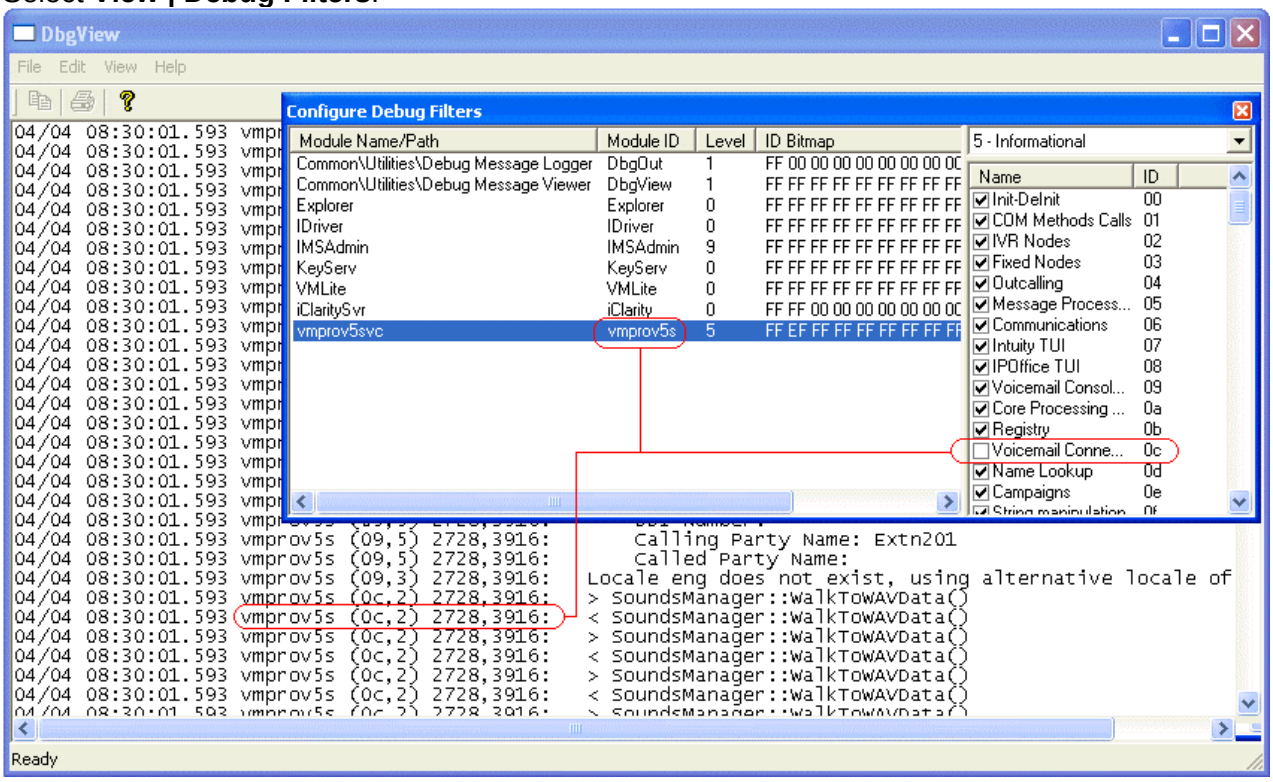
1. Run **DbgView.exe**.
2. Select **File | Log Preferences**.



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.

IMS Tracing

IMS tracing is enabled through a number of registry keys. The IMS server keys are set through HKEY_LOCAL_MACHINE registry values. The IMS client keys are set through HKEY_CURRENT_USER. All the keys are all REG_DWORD values and are disabled if not set or set to 0.

IMS	HKEY_LOCAL_MACHINE\SOFTWARE\AVAYA\Integrated Messaging
EnableTracing	This key must be enabled to allow tracing using the other keys below.

Voicemail	HKEY_LOCAL_MACHINE\SOFTWARE\AVAYA\Integrated Messaging\Voicemail
EnableTracing	This key must be enabled to allow tracing using the other keys below.
ConstructorTracing	This provides some tracing for when certain COM objects are constructed. As a whole it is not required for diagnostics.
DestructorTracing	This provides some tracing for when certain COM objects are destructed. As a whole it is not required for diagnostics.
EnableConnectionTracing	Provides diagnostic for when a connection occurs (server to server or client to server).
EnableRefTracing	This indicates when the reference count for certain COM objects is changed (through AddRef, Release).

Gateway	HKEY_LOCAL_MACHINE\SOFTWARE\AVAYA\Integrated Messaging\Gateway
Debugging	This key must be enabled to allow tracing using the other keys below.
ChannelEvtSinkTracing	Provide tracing about speech channel events received.
ConstructorTracing	This provides some tracing for when certain COM objects are constructed. As a whole it is not required for diagnostics.
DestructorTracing	This provides some tracing for when certain COM objects are destructed. As a whole it is not required for diagnostics.
EnableConnectionTracing	Provides diagnostic for when a connection occurs (server to server or client to server).
EnableFunctionTracing	Generally used by the client software to trace out information about the functions that are being executed.
EnableObjectTracing	Allows certain created COM objects to be traced.
EnableProxyTracing	When a client connects to a server, it connects through a proxy. This settings allows information from the proxy to be traced.
EnableRefTracing	This indicates when the reference count for certain COM objects is changed (through AddRef, Release).
EnableTagTracing	When certain internal objects are created, such as a channel object for speech playback, this information is tracked. Using this setting every minute a trace occurs of the object list.
FireEventTracing	Provide tracing about events that are sent from the server to its clients.
MailboxEvtSinkTracing	Provide tracing about mailbox events received.
MessageEvtSinkTracing	Provide tracing about message events received.

IMS Client Keys	HKEY_CURRENT_USER\Software\Avaya\Integrated Messaging\Client
EnableTracing	This key must be enabled to allow tracing using the other keys below.
ConstructorTracing	This provides some tracing for when certain COM objects are constructed. As a whole it is not required for diagnostics.
DestructorTracing	This provides some tracing for when certain COM objects are destructed. As a whole it is not required for diagnostics.
EnableFunctionTracing	Generally used by the client software to trace out information about the functions that are being executed.
EnableObjectTracing	Allows certain created COM objects to be traced.
EnableProxyTracing	When a client connects to a server, it connects through a proxy. This settings allows information from the proxy to be traced.
EnableRefTracing	This indicates when the reference count for certain COM objects is changed (through AddRef, Release).
EnableTagTracing	When certain internal objects are created, such as a channel object for speech playback, this information is tracked. Using this setting every minute a trace occurs of the object list.
MAPIEventTracing	Allow tracing of MAPI events received from MAPI.
MessageProcessingTracing	Used for tracing what server commands the extension is using.
UMSEventTracing	Allow tracing of events received from the IMS server.
TimeAndTrace	Used for tracing how long certain MAPI events took to process.

All the keys are based on the component as follows:

- IMS (Voice) Server – “SOFTWARE\Avaya\Integrated Messaging\Voicemail” (e.g. “HKLM\SOFTWARE\Avaya\Integrated Messaging\Voicemail”)
- IMS (Gateway) Server – “SOFTWARE\Avaya\Integrated Messaging\Gateway”
- IMS Administration – “SOFTWARE\Avaya\Integrated Messaging\Admin”
- IMS Client – “SOFTWARE\Avaya\Integrated Messaging\Client” (e.g. “HKCU\SOFTWARE\Avaya\Integrated Messaging\Client”).

VM Server Specific

- "CtiNotifyTracing" – Provide tracing to indicate that a Cti event has occurred.
- "VmsNotifyTracing" – Provide tracing to indicate that a VMS API event has occurred.

IMS Installation Alternatives

The IMS Server actually consists of two components in addition to the Voicemail Pro service, these are:

- **IMS Gateway Service.**
- **IMS Voice Service.**

Typically both these services are installed on the same server as the Voicemail Pro Service and that is the installation process described in this documentation. However the IMS Gateway Service can be installed on the Exchange Server PC if required. Installation of the IMS Gateway Service onto the Exchange Server PC requires more installation steps.

If the IMS Gateway Service is installed on the Exchange Server PC, IMS needs to access the Exchange server. Exchange must be started before IMS. More specifically, the MSExchangeIS and MSExchangeMTA services must be started before the IMS Gateway service. If the IMS and Exchange services are configured to start automatically on system boot, there may be a problem. When the system starts, Windows will launch both the IMS and Exchange services but not necessarily in the correct order. It is therefore necessary to force Windows to start the services in the correct order.

This is accomplished by editing the registry as follows:

1. Run regedt32.exe. This is normally located in \WINNT\SYSTEM32.
2. From the Window menu, select the HKEY_LOCAL_MACHINE option.
3. Navigate to the SYSTEM\CurrentControlSet\Services\IMS(Gateway) key.
4. Open the DependOnService value. It should already contain the IMS (Restart)
5. Append the MSExchangeIS and MSExchangeMTA strings.
6. Note that the value is of type REG_MULTI_SZ, which means that each string should be separated by pressing the enter key.
7. Close regedt32. Restart the machine and verify that IMS starts correctly.
8. Note that it may take a few minutes after a restart for the Exchange and IMS services to be fully operational.

D. Known Issues

Connection to IMS on a Domain Controller

Scenario:
Voicemail Pro with IMS will run on a PC running on a Domain Controller. Note however that it is not recommended that IMS be installed on a Domain Controller.

Problem:
Voicemail Pro and IMS are running on a Domain Controller and IMS clients are having Problems connecting.

Resolution:
All Domain users who are using the IMS clients must be able to read and write the folder C:\Program Files\Avaya\IP Office\Voicemail Pro\VM\Accounts on the server.

Problems Connecting to/Synchronizing with IMS

If you are having problems connecting to the IMS server or having problems synchronizing:

On the Client PC

Make sure the mailbox name you entered is EXACTLY what is in the name section of the user form for their mailbox. This is the entry as it appears in the Username field of the IP Office User Profile Screen. This is case-sensitive. Verify that all the user names have been entered correctly and that you are not using illegal characters, only alpha/numeric characters and no punctuation. If this information is entered incorrectly, the IMS client will not connect to the IMS Server.

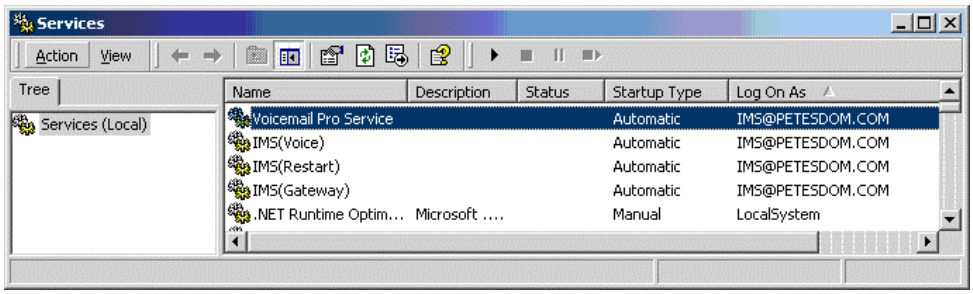
Voicemail removes spaces at the end of mailbox names. If spaces are left at the end of a mailbox user's name in IP Office Manager, when the mailboxes are created, the space at the end of the name is dropped. When this occurs the mailbox cannot be found as there is a mismatch between the user name and directory. Verify that there are no spaces at the end of any of the user names in Manager.

Make sure when you installed the client you gave the NAME of the VMPro/IMS server. Verify that you can ping the server by it's name. You may want to put an entry in the hosts and lmhosts with the #PRE option in the lmhosts.

Remove the client, reboot and reinstall it and verify that these are put in correctly then change the dcomcnfg settings outlined above in Misc Troubleshooting and always run the AvayaFW.bat even if the Windows Firewall is turned off.

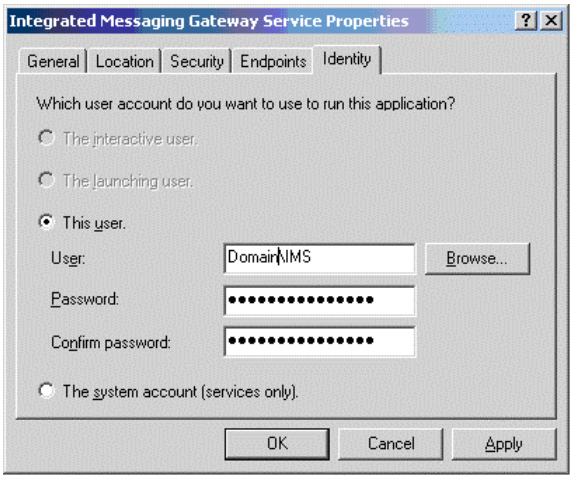
On the Voicemail Pro/IMS Server machine

Verify that you are using the proper domain account (IMS) to start the IMS services and VMPro service.



On the Server,

In dcomcnfg, verify that the Identity of the account that you are using to run the IMS Gateway, IMS Voice, and IMS Restart Services are the same Domain account you are using to start the Voicemail Pro and IMS services.



Make sure the account has at least local admin rights on the PC or local and domain admin rights.

Check the event viewer and stop and start the VMPro and IMS services and see if you get any errors. You must have the logging level set to Most or All.

Go into the control panel and run the IP Office Voicemail Pro Control Panel Applet and run through each tab and verify that all the information is correct and that you can browse for the server and email account. Run the check at the bottom of the applet and make sure it does not come back with an error, then check the event viewer and see if there are any errors. As long as you have the logging level set to most or all you should see errors in the event viewer application logs.

Check to see if you setup the Outlook account correctly and make sure it can send and receive email. You should be logged in with the same domain account you are using to start the Voicemail Pro and IMS services (IMS). Verify that you can send and receive emails.

Run the IMS admin tool and verify that the mailboxes have been setup properly. Un-assign then reassign them and verify that you can browse and find the email and NT login accounts, do not just type them in to avoid typo's. If you are not receiving the emails and everything else is setup properly, you can enter the SMTP email address (User@domain.com) in the email section but verify that you have typed it correctly. Next run the “synchronize” on the account by right clicking and choosing synchronize. Next go into the event viewer and check for new errors.

Reboot the VMPro/IMS server and make sure it boots up okay and starts all the services and there are no errors in the event viewer under application or system.

Verify that the IMSClient executable has not been run on the VMPro/IMS. Go to add remove programs and verify that the IMS Client is not in the list.

Ask yourself these questions: Are any client machines able to connect? If you have only installed the client on one machine make sure you try it on one or more other machines. Try different Makes and Models and operating systems if available to see if the problem is with a particular installation or build. If none of them can connect problem is most likely a problem on the server. If one or more can connect the problem is most likely on the client machine.

IMPORTANT THINGS TO REMEMBER:

Any time the user interacts with their voicemail/emails they must be connected to the IMS Gateway server on the voicemail PC. They can not work off line or the synchronization will be broken.

- When installing IMS, Windows Messaging (MAPI) must be installed prior to the Voicemail Pro install.
- This includes the connectivity to Microsoft Exchange Server.
- The IMS (Voice) must be installed on the same machine as the Voicemail Server.
- When entering the mailbox for the IMS client from the Integrated Messaging page within the options dialogue in Outlook, the mailbox must be the user’s name and not their extension number.

Unspecified Error 80004005

When selecting the handset to playback the message, a dialog box similar to the message below may be received.

This error is typically only seen when selecting the handset as the Output device. If the message is embedded or attached a user can play the message using desktop speakers.

Cause

This error message indicates that there may be a problem with permission configuration, thereby preventing the client from being able to establish a connection to the desktop extension.

A common cause for this is misconfiguration of the extension number that the IMS Client must connect to.

Solution

To verify and if necessary correct the issue, open Outlook, Select Tools – Options –Integrated Messaging Tab. Insert the correct extension number into the field provided.

Once completed play the message back from the client. This above symptom should now be resolved.

Outlook Cached Exchange Mode

Avaya IP Office Integrated Messaging is not supported with Microsoft Outlook using Cached Exchange Mode (provided in Outlook 2003).

Cached Exchange Mode can cause problems with Message Waiting light synchronization with IP Office terminals.

To disable Cached Exchange Mode:

1. Select **Start | Settings | Control Panel | Mail**.
2. Select **Email Accounts**.
3. Select **View or change existing email Accounts**.
4. Select the M**icrosoft Exchange Server**
5. Select **Change**.
6. Uncheck **Use Cached Exchange Mode**.
7. Click OK.
8. Close and restart Outlook be apply the change.

Using Cached Mode

IP Office IMS users who want to use Cached Mode when traveling outside of the Office can temporarily enable it operation.

1. Turn on **Cached Exchange Mode**.
2. Select the Integrated Messaging tab.
3. Select **Prompt before connecting to Voicemail Server** .
4. Click OK.
5. Close Outlook.

When the user logs in remotely and opens Outlook, they will be prompted by the message ***"Do you wish to connect to the Integrated Messaging server"***. They should select **No** before opening outlook. Outlook will not then try to synchronize voicemail messages in Outlook with Voicemail Pro.

When the user is back in the office, they can then check Cached Exchange Mode, reopen Outlook and connect to the Voicemail Pro server for message synchronization.

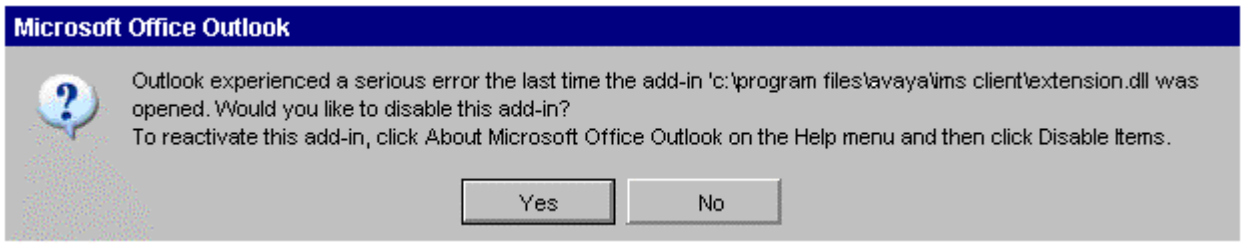
Transferring an IMS Account to a New PC

The voicemail call flows, greetings, IMS user accounts and other user settings can be transferred to a replacement Voicemail Pro server PC with the following steps:

1. Export the Voicemail call flows
2. Back up the Accounts, Names, Greetings Folders, and Custom wav files in a separate directory
3. Navigate to C:\Program Files\Avaya\IP Office\Voicemail Pro, then run Backupreg.bat This will back up the IMS account information entered in the IMS Admin Tool to VMPRO.arf, NETALY.arf, IMSGATEWAY.arf. The files are backed up to C:\%WINDIR%\temp. (%WINDIR% is the directory where Windows is installed).
4. Copy the three files to a backup device
5. Install the Voicemail Pro software onto the new PC
6. Stop the Voicemail Pro services and copy the Accounts, Names, Greetings Folders, and Custom wav files from the old PC to the directory on the new PC.
7. Copy the VMPRO.arf, NETALY.arf, and IMSGATEWAY.arf files to the new PCs Window's Temp directory (C:\windowstemp or C:\winnt\temp)
8. Run Restorereg.bat file. This will restore the IMS user's account information.
9. Start the Voicemail Pro and IMS services.
10. Import the VM Pro database. Save and make Live.

IMS Client Not Showing in Outlook Tools

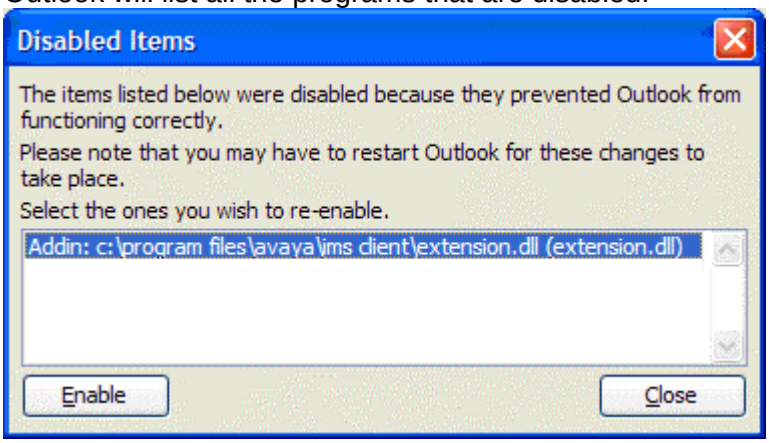
The Integrated Messaging Tab may be disabled and not show in Outlook's Tool, Options tab. This is caused by outlook disabling the Extension.dll file, which can be caused by the IMS user opening Microsoft Outlook and not being able to synchronize with the Voicemail Pro server; if the user then closes and opens Outlook, they may receive the following error:



If the user clicks **Yes**, Outlook will open and the Integrated Messaging client will not be able to synchronize Outlook with the client's voicemail box - the user will be able to click on an IMS message and play the message, but the message waiting light will not turn off.

To check to see if the extenstion.dll add-in is disabled:

1. Open Outlook. Select **Help | About Microsoft Office Outlook**.
2. Choose **Disabled Items**.
3. Outlook will list all the programs that are disabled.



4. Highlight **Addin: c:\program files\avaya\ims client\extension.dll**.
5. Choose **Enable**.
6. Click **Close**.
7. Open and close Outlook and the Integrated Messaging tab will appear in **Options | Tools**.

Firewall Port Settings

Windows users who install and use third party Firewall applications such as MacAfee Personal Firewall may experience problems using the Avaya IP Office Integrated Messaging Service with Outlook if ports that are blocked by the default installation of these products are not opened.

Problems that may be experienced include:

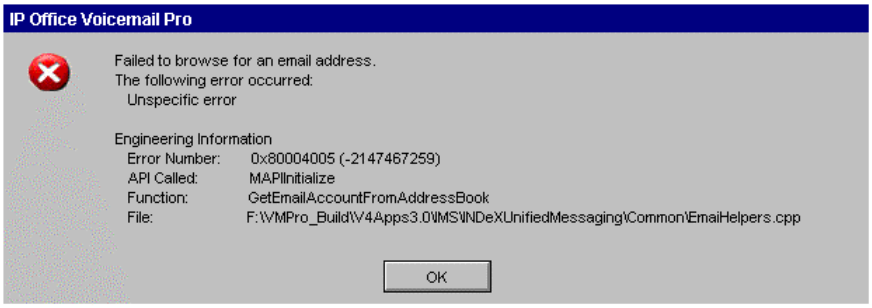
- Message waiting lights not turning off when messages are played.
- Failure to connect to Integrated Messaging Service when Microsoft Outlook is opened.

The following ports will need to be set to allow incoming and outgoing traffic:

- UDP Port 67
- UDP Port 69
- TCP Port 135
- TCP Port 2000
- UDP Port 50791
- UDP Port 50799

VMPro Error 0x80004005

When installing Voicemail Pro software, the following error message may be encountered:



This error message occurs when clicking browse to add the email account for “Voicemail to Email” or “IMS” Applications, and is due to Voicemail Pro attempting to browse Outlook’s contacts folder for accounts when Outlook is not installed on the Voicemail Pro server.

The account details can be added in manually by typing the full email address into the account details field and selecting apply. (Apply must be selected otherwise the settings will not be saved).

Windows Update Causes Voicemail Pro to Stop

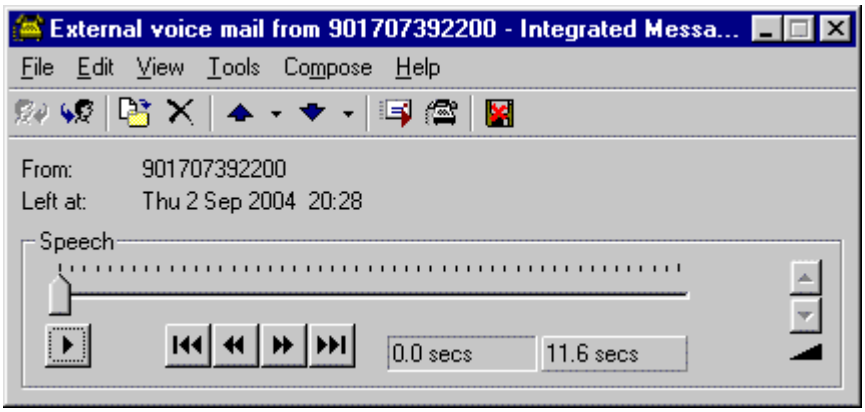
Voicemail Pro may stop working due to the lack of system resources when a MS Windows patch is downloaded and is waiting to be installed. As a result, Windows XP Professional and Windows 2003 servers should either disable Windows Automatic Update or set it to only Notify.

Windows Updates should be downloaded and installed after peak business hours on a regular basis. This will allow the installation to be done manually and testing of the update software to be done in a controlled fashion.

This can be done by going to **Start | Settings | Control Panel | System** then selecting the **Automatic Updates** tab, and choosing either **Notify Me** or **Turn Off**.

Saving IMS Messages Past Housekeeping

Once read, a Voicemail message will be deleted after a period of time defined by the voicemail system administrator, the default being 30 days (720 hours). IP Office Integrated Messaging Pro clients can save a copy of the message locally by clicking the Floppy disk icon in the embedded Interface.



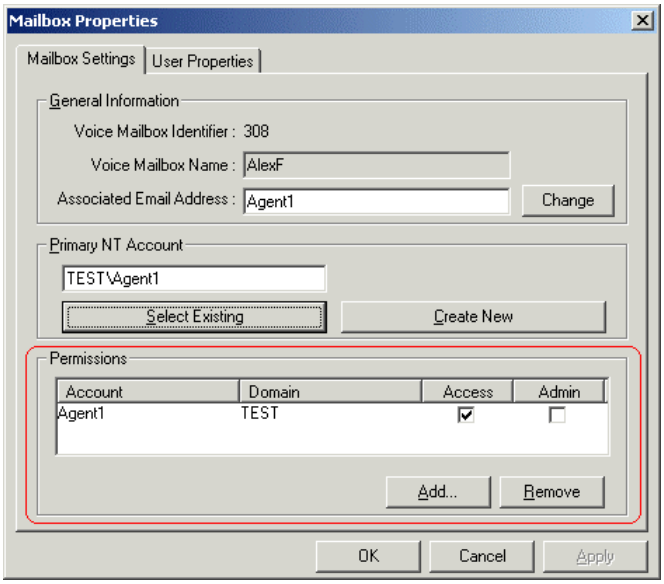
When the floppy disk icon has a red cross superimposed, this indicated that the message is not saved. The message will be removed automatically by housekeeping. Click the icon to save the message.

When the floppy disk icon has a green tick superimposed, the message is set as saved.

Outlook Delegates Cause IMS to Slow

IP Office Integrated Messaging Pro (IMS) clients may appear to respond slowly or even lock up where the IMS client user has defined one or more delegates in Microsoft Outlook.

These delegates should be included in IMS User settings in the IMS Administration tool.



All delegates of an IMS Client's Outlook should have their domain account and email address added into the permissions field, with "Access" permission selected.

IMS Clients Not Connecting When Outlook Opened

Avaya IP Office Voicemail Pro IMS Clients not connecting to Voicemail Pro when outlook is opened IMS Clients may experience problems when outlook is opened and the IMS software attempts to connect to the Voicemail Pro Server.

The IMS Client will try to resolve the name of the Voicemail Pro server; this will fail if the Voicemail Pro computer name includes non alphanumeric characters.

The Computer name of the Voicemail Pro server should not include non alphanumeric characters for this reason.

Examples are "Voicemail_Pro" or "machine-001".

The preferred computer name would be "VoicemailPro" or "machine001".

In addition, DNS must be setup locally in the network and the clients should have their primary DNS requests pointed to that server.

Starting IP Office Services Using a Batch File

In some instances, certain computers might not respond quickly enough in order to start all of the Avaya services in the correct order. In this circumstance, it can be advisable to create a batch file which will delay the start of these services until the PC 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 proper order.

To set up the batch file:

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%:

```
@echo off
rem Wait 60 seconds before execute.
timeout /t 60
net start CCC Delta Server
net start CCC Reporting
net start VMProDBService
net start Voicemail Pro Service
net start IMS(Restart)
net start IMS(Voice)
net start IMS(Gateway)
```

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

Message Waiting Indicators Not Clearing

All user names in a Small Community network using centralized Voicemail must have a completely unique entry in the User's Name field.

Examples of incorrect user names on the same system include:

- User 1: STEVE SMITH
- User 2: steve smith
- User 3: Steve
- User 4: Steve Smith
- User 5: Steve-Smith

User names must only use alphabetic characters.

These examples may cause one mailbox to be created for the above users. This may prevent message waiting indicators from updating correctly, and Integrated Messaging (IMS) synchronization problems.

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