

Modular Messaging for Microsoft Exchange

Release 5.1

Installation and Upgrades

June 2009

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- Security documents
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About this book

This book, *Avaya Modular Messaging for Microsoft Exchange Release 5.1 Installation and Upgrades* contains instructions for installing, upgrading, or migrating the Avaya Modular Messaging software in a Microsoft Exchange environment.

The Avaya-provided hardware for new systems is the Avaya S8730-family server hardware. Upgraded Avaya-hardware systems can use Avaya S3500-family message server hardware, or migrate to the new Avaya hardware.

Customer-provided equipment (CPE) for a Modular Messaging install or upgrade must match the specifications described in *Avaya Modular Messaging Concepts and Planning Guide*.

Note:

Avaya does not support Avaya S3400-family server hardware in Release 5.1. However, this book provides instructions to migrate to an Avaya S8730-family server.

Information in this book includes:

- Instructions to implement Modular Messaging with Exchange 2003 and Exchange 2007
- Instructions to install a new system, including equipment assembly, set up and configuration, initial administration, and acceptance testing
- Instructions to upgrade the software from a Modular Messaging Release 3.x, or 4.0 system to Release 5.1
- Instructions to migrate Modular Messaging system Release 1.1, 3.x, or 4.0 from an Avaya S3400 or an S3500 server to Release 5.1 on an Avaya S8730 server

Note:

Use this document to install an Avaya Modular Messaging system. After the software installation, customers must modify the Modular Messaging system parameters for use at their site. For more information, see the administration topics of the user documentation. For instructions to download the documents, see Downloading user documentation on page 5.

Intended audiences

The book will be useful to designated experts who are responsible for:

- Installation and configuration of hardware and software for the Avaya S3500-family servers, the Avaya S8730-family servers, and for the customer-provided (CPE) MAS.
- Upgrade from Release 3.x, or Release 4.0 system that runs on the S3500 server to Modular Messaging Release 5.1.

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- Migration from Release 1.1, Release 3.x or Release 4.0 running on an S3400 or S3500 server to Modular Messaging Release 5.1 running on an S8730-family server.

Users of this book must be familiar with administering Microsoft Windows 2003 R2 or 2008, and Microsoft Exchange 2003 or 2007. Avaya assumes that users have read the *Avaya Modular Messaging Concepts and Planning Guide*.

Technicians who install an Avaya-provided Messaging Application Server should have completed a relevant hardware installation training course. For information on training, see Related resources on page xvii.

Changes to this book

Changes to this book includes:

- New Release 5.1 software installation procedures for Avaya and customer-provided servers.
- Support for S8730 hardware. For hardware specific information, see *Installing the Avaya S8730 Server for Modular Messaging*.
- Support for installing Subscriber Administration on a Windows Server 2008 based Active Directory.
- Modular Messaging Release 5.1 migration procedures.
- Starting from Modular Messaging Release 5.1, Exchange 2007 is the default version for MM with Exchange backend.

Note:

This document provides ***only*** the information on software installation, upgrades and migration of the Avaya Modular Messaging system in a Microsoft Exchange server configuration. See *Installing the Avaya S8730 Server for Modular Messaging* for information about installing the new hardware.

How to use this book

Review the appropriate section, depending on whether you are installing a new Avaya Modular Messaging system, or upgrading, or migrating a Modular Messaging system that is already in service.

Installing a new system

This document describes how to install Avaya Modular Messaging software either on a customer-provided Messaging Application Server (MAS), or on hardware provided by Avaya. Avaya-provided hardware is called the *Avaya MAS* in this guide. Although most steps are similar for both types of installation, this guide contains sections that are applicable only to one or another of these specific hardware types, as noted in the text.

Before you start a new installation:

1. Verify that the system meets the requirements specified in the *Avaya Modular Messaging Concepts and Planning Guide*. The planning guide explains important concepts and provides information that is crucial for planning a Modular Messaging installation.
2. The project planner, system administrator and other designated experts create a Data Collection Tool (DCT) data file prior to the installation. Send this file to the on-site technical support representative.
3. Print the checklist for a new installation from Appendix A: Installation, upgrade, and migration checklists on page 215. Use it to track your progress. There are different checklists for the Avaya MAS and CPE MAS. Be sure to print the checklist for your configuration.
4. Read Chapter 1: Preinstallation requirements on page 1. This chapter lists installation prerequisites, including the required documentation, software, tools, and equipment that you need to complete an installation.

Using the checklist as a guide, follow the directions in each subsequent chapter to install, configure, and test the Modular Messaging software.

Upgrading, migrating, or recovering a system

To upgrade a Modular Messaging system for either the Avaya MAS or customer-provided MAS:

1. Obtain the following before you start the upgrade:
   a. The planning forms for the system that runs on Release 3.x or the original DCT file for the system that runs on Release 4.0
   b. The latest analyzed DCT file for the system.
2. Print the relevant upgrade checklist from Appendix A: Installation, upgrade, and migration checklists on page 215. Use it to track your progress. Be sure to print the checklist for your configuration.
3. Obtain the software and documentation listed in the chapter overview of the configuration you are upgrading.
4. Follow the instructions in Chapter 8: Upgrading Modular Messaging software on an Avaya MAS on page 119.

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5. Follow the instructions in Chapter 9: Upgrading Modular Messaging software on a customer-provided server on page 141.

To migrate a Modular Messaging system for either the Avaya MAS or customer-provided MAS:

1. Obtain the following before you start the upgrade:
   a. The planning forms for the system that runs on Release 1.1 and 3.x or the original DCT file for the system that runs on Release 4.0
   b. The latest analyzed DCT file for the system.
2. Print the relevant migration checklist from Appendix A: Installation, upgrade, and migration checklists on page 215. Be sure to print the checklist for your configuration.
3. Follow the instructions in Chapter 10: Migrating to Modular Messaging Release 5.1 on an Avaya MAS on page 163.

To recover an MAS from a catastrophic disk failure:

1. Print a copy of the disk failure recovery checklist in Appendix H: Disk failure recovery on page 317.
   - The latest analyzed DCT file.
   - For an Avaya MAS, see Recovering from a catastrophic disk failure on an Avaya MAS on page 318.
   - For a customer-provided MAS, see Recovering from a catastrophic disk failure on a customer-provided MAS on page 325.
2. Follow the procedures in Appendix H: Disk failure recovery on page 317 to recover the MAS.

Using links in this document

The PDF version of the guide provides links to other files or pages. Links are shown in blue text and operate as follows:

- Internal links within this document always work when you use the PDF version of this guide. Internal links include links to tables, figures, or other sections of the book.
- You can use the PDF version of the guide on a system that is connected to the Internet. If you do, you can click the link to any Web site address, such as http://www.avaya.com, to go directly to the site.

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Related resources

This section describes additional documentation and training available to you.

User Documentation

For information about items in the documentation set for this product, go to the Avaya Support Web site at http://www.avaya.com/support. Always use the appropriate CD or book to obtain specific information about planning, installing, administering, or maintaining an Avaya system.

Technical assistance

The following technical assistance is available if needed.

Remote support center

Your project manager or systems consultant is responsible for providing you with the telephone number of the appropriate remote support center.

The following numbers are available for technical assistance with Avaya products and services:

- Within the United States and Canada: call 1-800-242-2121.
- Within any other country: call your local distributor.

Help on the system

Online help is available as follows:

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- *MAS:* Use the Help menu, press **F1**, or click the **Help** button (if available) for the application or wizard you are in.
- *DCT:* Press the **Help** button on any page of the DCT application.

Training

For information about product training, go to the Avaya Web site at www.avaya.com and click **Training**.

How to comment on this book

Avaya is interested in your suggestions for improving this information. Use infodev@avaya.com to communicate with us.

Be sure to include the name, issue number, and date of this book:

Avaya Modular Messaging for Microsoft Exchange Release 5.1 Installation and Upgrades, Issue 0.3, June 2009.

Chapter 1: Preinstallation requirements

This chapter describes the prerequisites for installing an Avaya Modular Messaging software in a Microsoft Exchange environment.

Topics in this chapter include:

- Software shipped with the system on page 2
- Obtaining the DCT data file on page 3
- Downloading required software and documentation on page 3
- Security considerations on page 7
- Test equipment recommendations on page 8
- Initial switch and LAN administration on page 9

For information on specifications, site requirements, switch and LAN demarcation points for an Avaya-provided server, see *Installing the Avaya S8730 Server for Modular Messaging*.

Software shipped with the system

The following software ships with each Modular Messaging system:

Table 1: Required Modular Messaging software that ships with the system

Disk	Purpose
Avaya Modular Messaging R5.1 MAS Application—1 DVD	Use this software for: • Installing the Modular Messaging software, Dialogic port board drivers, Text-to-Speech (TTS) software, and optional application programs running on Avaya-provided servers and CPE servers • Upgrading to R5.1 on S3500-family servers
Avaya Modular Messaging Messaging Application Server (MAS) and Boot Software for Microsoft Exchange and IBM Domino (One DVD)	This software reinstalls the boot-image on an Avaya MAS in a Microsoft Exchange configuration. Make sure you have the correct version of the boot-image, either Avaya S3500 or Avaya S8730. Use it to upgrade a system from Release 1.1 to Release 5.1 or to repair a hard-disk failure. For more information, see Appendix G: Reloading software on an Avaya MAS on page 311.

Obtaining the DCT data file

Usually a person responsible for installation planning uses the Modular Messaging Data Collection Tool (DCT) to create a DCT data file prior to the installation. This person might be the project manager, a customer representative, or other responsible party. The DCT data file has the extension **mmdct**, such as *sitefile.mmdct*. You will need the DCT data file to configure each MAS.

1. Obtain the DCT data file from the appropriate person.
2. Copy the DCT data file to a CD-ROM, DVD, or USB storage device such as a flash drive, memory stick, or equivalent that you carry to the customer site.

Note:

For more information about the DCT, see the DCT online help, or the printed document, *Avaya Modular Messaging Data Collection Tool Help*, available on the Avaya Support Web site.

Downloading required software and documentation

You must download and use the software and documentation described in this section to install or upgrade an Avaya Modular Messaging system. You can obtain most of this information only from the Avaya Support Web site. Download this information before you go to the customer site because some Modular Messaging sites do not have Internet access.

Important:

Always check the Avaya Support Web site at http://www.avaya.com/support for recent updates and current information before starting an installation or upgrade. Be aware that links and paths on the Avaya Support Web site might change.

The following topics explain how to download or print the required software and documentation from the web:

- Downloading software updates on page 4
- Downloading configuration notes on page 4
- Downloading the installation and upgrade checklists on page 5
- Downloading user documentation on page 5

You may require additional third-party software downloads for certain installation and upgrade procedures.

For information about downloading software required when installing Modular Messaging with Exchange 2007 mail servers, see Completing MAS configuration prerequisites on page 40.

Downloading software updates

You must update the Avaya Modular Messaging software for each installation or upgrade to bring it up to date with the latest changes. To obtain the latest Avaya Service Pack (SP), software patches for the system:

1. Go to the Avaya Support Web site at http://www.avaya.com/support.
2. Under **RESOURCE LIBRARY,** click the link to **Find Documentation and Technical Information by Product Name.**
3. Under **M**, click **Modular Messaging**.
4. On the Modular Messaging page, select Release **5.1** from the drop-down list.
5. Click **Downloads.**
6. Download any files needed to update a Release 5.1 system. For example, download the latest DCT executable file (MMDCT.exe) and the latest Modular Messaging 5.1 Service Pack. Ensure that you download any instructions required to install the Service Pack or software update.
7. Download the latest **Modular Messaging 5.1 Client** software package.
8. Copy the downloaded files to a USB storage device such as a flash drive, memory stick, or equivalent.
9. Bring the USB storage device with you to the installation site.

Downloading configuration notes

Obtain the configuration notes, which are required for integrating the MAS with the PBX or switch at this site. This information is available only on the Avaya Support Web site and must be obtained before you install the software. To obtain the most current copy:

1. Go to the Avaya Support Web site at http://www.avaya.com/support.
2. Under **RESOURCE LIBRARY,** click the link to **Find Documentation and Technical Information by Product Name.**
3. Under **M**, click **Modular Messaging**.
4. On the Modular Messaging page, select Release **5.1** from the drop-down list.
5. Under DOCUMENT CATEGORIES, click the link to **Configuration Notes**.
6. Download or print the configuration notes for the switch integration you need.

Note:

For AudioCodes gateway configuration notes, go to http://www.audiocodes.com/avaya Web site.

Downloading the installation and upgrade checklists

The Avaya Support Web site provides access to a PDF version of the installation and upgrade checklists. You can also find the checklists in Appendix A: Installation, upgrade, and migration checklists on page 215. To download the checklists:

1. Go to the Avaya Support Web site at http://www.avaya.com/support.
2. Click the link to **Find Documentation and Downloads by Product Name**.
3. Under **M**, click **Modular Messaging**.
4. On the Modular Messaging page, select Release **5.1** from the drop-down list.
5. On the Modular Messaging page, click **Installation, Migrations, Upgrades and Configurations**.
6. Click the following link: **Modular Messaging with Microsoft Exchange Release 5.1 Installation and Upgrade Checklists**.
7. Click **Download**.
8. From the **File Download** dialog box, open or save the checklists file.

Downloading user documentation

You can obtain user documentation needed for installing or upgrading a system on the Avaya Support Web site:

1. Go to the Avaya Support Web site at http://www.avaya.com/support.
2. Click the link to **Find Documentation and Downloads by Product Name**.
3. Under **M**, click **Modular Messaging**. The browser opens Modular Messaging page.
4. In the release field, click **5.1**.
5. On the Modular Messaging page, click **Documentation Library (CD Collections)**.
6. Click **Avaya Modular Messaging Release 5.1 Documentation**.
7. Click **View HTM**.
8. On the Modular Messaging documentation menu, click the **Avaya Modular Messaging with the Avaya MAS for Microsoft Exchange** link to view the document set.
9. Click **Reference** for a list of downloadable documents.

10. Either click to view or print files, or right-click to download the files you need:

Table 2: Modular Messaging documentation

Document (alphabetical list)
Avaya Modular Messaging Client Microsoft Outlook User Guide
Avaya Modular Messaging Concepts and Planning Guide
Avaya Modular Messaging Data Collection Tool Help
Avaya Modular Messaging Documentation media
Avaya Modular Messaging for Microsoft Exchange Release 5.1 Installation and Upgrades
Avaya Modular Messaging MAS Administration Guide
Avaya Modular Messaging Subscriber Options User Guide
Avaya Modular Messaging S8730-Family Hardware Maintenance and Additions
Installing the Avaya S8730 Server for Modular Messaging
Maintaining the Avaya S8730 Server for Modular Messaging
Avaya Modular Messaging Web Subscriber Options Server Installation
Avaya one-X Speech Site Preparation Guide
White paper for MM 5.1 with Windows 2008 support
Dialogic guides (to access use the Quick Install Cards Search Tool on the Intel Telecom Boards Web site)

Security considerations

The following security-related issues apply to all Modular Messaging installations.

On-site security considerations

On-site installers must take precautions to protect passwords and restrict access to the system.

Password security

To protect password security:

- Do not leave written passwords lying out or allow anyone to see the passwords.
- At the first opportunity, give the passwords directly to the designated customer representative.
- If you suspect that the security of the system was compromised, notify the project manager or the system administrator.

System security during installation

To protect system security during the installation:

- Remove all test subscribers and test mailboxes from the system when the procedures instruct you to do so.
- Always log off or lock the server if you leave it unattended, even for a short period of time.
- Give a copy of the most current DCT data file (*.mmdct) to the customer and the appropriate support organization after you finish an installation or upgrade. Afterwards, remove the DCT data file from your USB storage device or laptop.

Ongoing system security considerations

Customers are responsible for obtaining and installing anti-virus software on any Microsoft Windows computer that is to run Avaya Modular Messaging software. Customers must also routinely install Avaya-approved updates for Microsoft Windows systems to protect the system from known security weaknesses. Updates include operating system updates and security patches. For more information, see “Modular Messaging and security“on the *Avaya Modular Messaging Documentation* media.

Note:

Avaya technical support representatives must follow their specified internal procedures for verifying the software that is installed. If required, they must update the software with the latest patches as instructed.

Test equipment recommendations

Recommended test equipment for a successful installation includes:

- At least two telephones connected through the switch or private branch exchange (PBX). The telephones must be of the same type as the majority of telephones the customer plans to use on the system.
  - Preferably the test telephones will have a data display for testing integration and the Find Me and Call Me features.
  - If the message waiting indicator (MWI) for the system is a lamp, the test telephones must be equipped with a lamp. If the MWI is a stutter tone, the telephones must be able to provide the stutter notification.
  - Place the test telephones so you can easily see the monitor while using the telephones.
- Access to a fax machine, if you plan to install MM Fax functionality.

Initial switch and LAN administration

This section describes the initial switch or Private Branch Exchange (PBX) and local area network (LAN) administration that is required. Customers must complete this administration before or during a new Avaya Modular Messaging installation.

CAUTION:

It is crucial to coordinate the IP addresses that are to be used with the Avaya Modular Messaging system with those on the corporate LAN. If you specify an IP address for a message server that conflicts with another Ethernet endpoint, the resulting traffic problems on the local area network can be extremely difficult to diagnose and solve.

Initial switch or PBX administration

Initial switch or PBX administration might or might not be complete when you arrive on site, depending on the contract or customer agreements. When you install a new server, the switch administration must support:

- Testing the system with at least one test subscriber.
- Cut to service procedures that provide the subscribers with an active coverage path.
- For configurations that use analog and DSE port boards, the ability for testers to call each channel individually. The appropriate party must test each channel to be connected to the system before assigning the channels to the server or another application.

Verify that initial switch administration and testing is complete before you start.

Initial LAN administration

The LAN administrator must administer the corporate LAN for the messaging system. Some LANs might be administered before the on-site installation starts. Other LANs require that the administration for a new server be done at the time of installation.

Note:

Avaya is not responsible for the installation, administration, or test of communications between customer computers and the LAN.

Chapter 2: Preparing to install Modular Messaging software

This chapter describes how to set up Modular Messaging accounts on the directory server and prepare the directory server to support the Modular Messaging software. The steps in this chapter must be completed by the directory server administrator or other authorized customer personnel before a technician can install Modular Messaging software on the first MAS in the system.

Topics in this chapter include:

- Overview on page 11
- Setting up Modular Messaging accounts on page 13
- Assigning permissions to the Modular Messaging Service Permissions Group on page 19
- Creating MAS computer accounts on page 26
- Setting up each server for remote access on page 27
- Updating the Active Directory and data schema on page 28

Overview

This chapter describes the following system preparation steps:

1. For all installations, you must create a Modular Messaging security group, customer accounts and technical support accounts on the directory server and add the correct permissions for each account. For information about the correct permissions, see Appendix K: Administrator reference on page 341.
2. Depending on local requirements, you must create computer accounts for each MAS in the Active Directory and set up each MAS to allow remote access by technical support staff.
3. You must update the data schema before you install any Modular Messaging software on any Messaging Application Server (MAS) in the domain.

Note:

This procedure can be done only on a machine that is running the Microsoft Windows 2000, 2003 R2, or 2008 Server operating system.

Log on to the Active Directory using an account that has permission to do Active Directory and data schema administration. This is usually the Windows domain administrator account. The account must have both Domain Admin and Schema Admin rights.

CAUTION:

Installing Modular Messaging for Exchange Administraiton extensions on a DC may require a server restart.

CAUTION:

All servers must meet the requirements listed in the *Avaya Modular Messaging Concepts and Planning Guide*. Review this document to verify that all Exchange servers, directory servers, MASs, and client machines are ready to support Modular Messaging software.

To successfully set up the Windows system to support the Modular Messaging software, you need:

- Access to the *Avaya Modular Messaging Messaging Application Server Software* media.
- The names and passwords for accounts and groups that will be created by the procedures in this chapter, including the customer account, Modular Messaging Service Permissions Group, technical support account, and test subscribers. If necessary, see the Data Collection Tool data file for account and group names and passwords.

Setting up Modular Messaging accounts

You must create two Windows domain user accounts on the directory server to support Modular Messaging and you must assign sufficient permissions to the accounts.

- Create a customer account to install and administer the Modular Messaging software.

  Note:

  In pre-3.0 releases customer account was referred to as the service account.

- Create a technical support account to allow remote support staff to access and administer the Modular Messaging system.

At this time you can also optionally create a test subscriber account for each Telephone User Interface (TUI) that will be used at this site. The test subscriber accounts are required to support acceptance testing after the MAS is configured. For more information about creating accounts, see the Microsoft Windows documentation.

Note:

If using Exchange 2007 mail server, you can use an Exchange PowerShell script to automate some of the steps required to set up the Modular Messaging accounts. For more information, see Using Power Shell to create a Modular Messaging Service Permissions Group on page 18.

Creating Modular Messaging customer and technical support accounts

To prepare for creating customer and technical support accounts, complete the following steps:

1. Log on to the Active Directory server using an account that has privileges to create new user accounts (such as *administrator*).
2. Click **Start** > **Programs** > **Administrative Tools** > **Active Directory Users and Computers**.
3. In the **Active Directory Users and Computers** window, expand the Windows domain you intend to use for Modular Messaging. This is the Corporate Windows domain entry in the DCT data file.

Creating the Modular Messaging customer account

To create the Modular Messaging customer account, you must first create a new security group (MM Service Permissions) for the account and then create the account and assign appropriate permissions.

Creating the Modular Messaging Service Permissions Group

Create a new security group (MM Service Permissions) that will give the Modular Messaging customer account the appropriate permissions. For example:

1. In the left pane, right-click **Active Directory Users and Computers**, **Users** > **New** > **Group**.
2. In the **New Object - Group** window, create a new security group as follows:
   a. Enter the Modular Messaging Service Permissions Group name (such as *MM Service Permissions*). If necessary, for the correct value, see the Modular Messaging Service Permissions Group field in the DCT.
   b. Select the group scope appropriate for this site.
   c. Select group type **Security**. Click **Next**.
   d. On the next screen, do *not* create a mailbox (clear the check box if it is checked). Click **Next**.
   e. Click **Finish**.
3. In the left pane, click **Users**.
4. In the right pane, find the new group (such as *MM Service Permissions*) and double-click it.
5. In the **Properties** window, click the **Member Of** tab.
   a. Click **Add**.
   b. In the **Select Groups** window, add the following groups to assign the necessary permissions. Double-click each group to add it to the permissions list:
      - *Administrators* (required for the domain that contains the Global Catalog servers that will be used as peer directory servers for Modular Messaging)

        Note: This is the built-in administrators account. It is NOT the Windows domain administrator (Domain Admins) account.
      - *Account Operators* (required for each domain that will contain user accounts to be enabled for Modular Messaging)
      - *Exchange Recipient Administrators* (required only for systems using Exchange 2007 mail servers)
   c. Click **OK** to close the **Select Groups** window.
6. Click **OK** to close the **Properties** window.

Creating the Modular Messaging customer account

Create a new account for installing and administering the Modular Messaging software (this is the Modular Messaging customer account). For example:

1. In the left pane, right-click **Active Directory Users and Computers > Users** > **New** > **User**.

2. In the **New Object - User** window, create a new Modular Messaging customer account using a secure logon name. For example:
   a. First name: Customer
   b. Last name: Account
   c. User logon name: *customer-provided* (such as *mmacct*). If necessary, for the correct value, see the customer account field in the DCT.

   Note:

   Ensure that you are satisfied with the Modular Messaging account names and passwords that you choose now. They are not easy to change later.

   d. Click **Next**.
   e. Enter and confirm the password.

   Note:

   Passwords for Modular Messaging accounts must be at least 8 characters long. Do not create passwords composed of easily guessed words or numeric combinations, including sequential or repeated numbers. You must use a combination of at least three of the following character types: uppercase and lowercase letters, numbers, and special characters or symbols.

   f. Select **Password never expires**.

   Note:

   If you change the password for a Modular Messaging customer account at some point, contact the software-provider for the password-changing procedure.

   g. Click **Next**.
   h. On the following page, clear the check box for **Create an Exchange mailbox**.

   Note:

   You do not need to create an Exchange mailbox for a Modular Messaging customer account.

   i. Click **Next**.
   j. When the summary is displayed, click **Finish**.
3. In the left pane, click **Users**.
4. In the right pane, locate the new account and double-click it.
5. In the **Properties** window, click the **Member Of** tab.
6. Verify that the **Domain Users** entry is present. If the Domain Users entry is missing:
   a. Click **Add**.
   b. In the **Select Groups** window, add **Domain Users** to this account.
   c. Click **OK** to close the **Select Groups** window.

7. Add the customer account to the Modular Messaging Service Permissions Group you just created:
   a. Click **Add**.
   b. In the **Select Groups** window, add the Modular Messaging Service Permissions Group that you just created (such as *MM Service Permissions*).
   c. Click **OK** to close the **Select Groups** window.
8. Click **OK** to close the **Properties** window.

   You will assign permissions to the Modular Messaging customer account in Assigning permissions to the Modular Messaging Service Permissions Group on page 19.

Creating the Modular Messaging technical support account

Create a new account to allow remote support staff to access and administer the Modular Messaging system. For example:

1. In the left pane, right-click **Active Directory Users and Computers > Users** > **New** > **User**.
2. In the **New Object - User** window, create a new Modular Messaging remote access account using a secure logon name. For example:
   a. First name: Support
   b. Last name: Account
   c. User logon name: *customer-provided* (such as *techacct*). If necessary, for the correct value, see the technical support account field in the DCT.
   d. Click **Next**.
   e. Enter and confirm the password.
   f. Select **Password never expires**.

   Note:

   If you ever change the password for the remote access account, be sure to notify the appropriate technical support organization.

   g. Click **Next**.
   h. On the following page, clear the check box for **Create an Exchange mailbox**.
   i. Click **Next**.
   j. When the summary is displayed, click **Finish**.
3. In the left pane, click **Users**.
4. In the right pane, double-click the name of the new account.
5. In the **Properties** window, click the **Member Of** tab.
6. Verify that the **Domain Users** entry is present. If the Domain Users entry is missing:

a. Click **Add**.

b. In the **Select Groups** window, add **Domain Users** to this account.

c. Click **OK** to close the **Select Groups** window.

7. Click **OK** to close the **Properties** window.

Creating test subscriber accounts

Create at least one new test subscriber account for each telephone user interface (TUI) that will be used at this site. The test subscriber accounts will be used for acceptance testing later in the installation. You may need to create up to three accounts, one for the MM Aria telephone user interface (TUI), one for the MM AUDIX TUI, and one for the MM Serenade TUI. For example:

1. In the left pane, right-click **Active Directory Users and Computers > Users > New** > **User**.
2. In the **New Object - User** window, create a new account, such as:

   a. First name: *Aria Test*

   b. Last name: *Subscriber*

   c. User logon name: *customer-provided* (such as *testsub1*).

   d. Click **Next**.

   e. Enter and confirm the password for the account (*customer-provided*).

   f. Set up other parameters as required for this site.

   g. Click **Next**.

   h. On the third page, verify that **Create an Exchange mailbox** is selected.

   i. Select the required **Server** (Exchange organization) and **Mailbox Store** (Exchange server).

   j. Click **Next**.

   k. When the summary is displayed, click **Finish**.

   A new account is added to the list in the right pane.

   Note:

   The extension for the test subscriber must be administered on the PBX by the appropriate party.

3. Repeat Steps 1 and 2 to set up test subscribers for AUDIX and Serenade if required for this site.
4. Click **OK** to close this window.
5. Assign Modular Messaging characteristics to this account after the Modular Messaging software is installed. See Adding a test subscriber on page 104.

Using Power Shell to create a Modular Messaging Service Permissions Group

If an Exchange 2007 mail server is used, you can use an Exchange PowerShell script to complete some tasks that are part of creating and assigning permissions to the Modular Messaging Service Permissions Group. The PowerShell script can:

- Create the Modular Messaging Service Permissions Group
- Assign the required Exchange Organization permissions to the group
- Add the Modular Messaging Service Permissions Group to the Exchange Recipient Administrators group.

Before you can use the script to create the security group, you must create the customer account and the technical support account. For more information, see Creating Modular Messaging customer and technical support accounts on page 13. Ignore the instructions for creating the Modular Messaging Service Permissions Group, creating only the accounts. When creating the customer account ignore the steps for adding the account to the Modular Messaging Service Permissions Group. You can add the account to the group later.

After creating the customer account and technical support account, complete the following steps to run the PowerShell script:

1. Log on to the Exchange 2007 server using an account with Exchange Organization Administration privileges.
2. Click **Start** > **All Programs** > **Microsoft Exchange Server 2007** > **Exchange Management Shell**.
3. Download the script **createsecuritygroup.ps1** from the Avaya support site http://www.avaya.com/support. Run the script with the following parameters in the listed order:
   - customer account name
   - technical support account name
   - Modular Messaging Service Permissions Group name
   - Modular Messaging Service Permission group alias
   - container to create Modular Messaging Service Permissions Group in
   - domain name

- Exchange organization name

  For example:

  ```
  C:\Avaya_Support\Exchange2007Migration> createsecuritygroup.ps1
  'mmacct''mmtech''MM Security Group' 'MM Security Group'
  'avaya.com/users''avaya.com''ExchangeOrg'
  ```

  For information about using the Exchange Management Shell, see your Microsoft Exchange documentation.

After running the script, you must:

1. Manually add the customer account to the Modular Messaging Service Permissions Group.
2. Manually add the Modular Messaging Service Permissions Group to the built in Administrators and Account Operators groups.
3. Manually assign *send as* permissions to the Modular Messaging Service Permissions Group, see Assigning Send As permission on page 19.

Assigning permissions to the Modular Messaging Service Permissions Group

Use the steps in this section to assign permissions to the Modular Messaging customer account by assigning permissions to the Modular Messaging Service Permissions Group that you created in Creating the Modular Messaging Service Permissions Group on page 14. Sufficient permissions must be assigned to the group for the customer account to function as required. For details on permission requirements, see Appendix K: Administrator reference on page 341.

To assign permissions to the Modular Messaging Service Permissions Group, complete the following procedures:

- Assigning Send As permission on page 19
- Assigning additional permissions on page 21

Assigning Send As permission

You must assign *Send As* permission to the Modular Messaging Service Permissions Group to allow Modular Messaging to deliver call answer messages to Modular Messaging enabled mailboxes. For additional information, see Send As permission on page 343. Complete the following steps to assign *Send As* permission:

1. Log on to the Active Directory server using an account that has Domain Administrator privileges.

2. Click **Start** > **Programs** > **Administrative Tools** > **Active Directory Users and Computers**.
3. On the **View** pull-down menu, verify that **Advanced Features** is selected.
4. In the left pane of the **Active Directory Users and Computers** window, select the domain and right-click. Select **Properties**.
5. On the **Properties** window, select the **Security** tab.
6. Click **Advanced**.
7. On the **Advanced Security Settings** window, click **Add**.
8. In the **Select Users, Computers, and Groups** window, add the Modular Messaging Service Permissions Group (such as *MM Service Permissions*).
9. Click **OK** to close this window.
10. In the **Apply onto** field, select **User objects**.
11. In the **Permissions** box, allow **Send As** permissions
12. Click **OK** to close the **Permission Entry** window.
13. Click **OK** to close the **Advanced Security Settings** window.
14. Click **OK** to close the **Properties** window.

A security descriptor is periodically applied to the protected groups and users listed below. As a result, *Send As* permissions are removed from these objects.

Protected Groups and Users:

- Administrators
- Account Operators
- Server Operators
- Print Operators
- Backup Operators
- Domain Admins
- Schema Admins
- Enterprise Admins
- Cert Publishers
- Administrator account
- Krbtgt account

If any of the protected groups and users listed above is enabled for Modular Messaging, complete the following steps to prevent *Send As* permissions from being removed. You must be a member of the domain administrators group to complete this procedure:

Note:

The dsacls utility is not standard with Windows 2003 server. It is part of the Windows 2003 support tools that ship on the Windows 2003 installation media.

1. Click **Start > Run**, enter **cmd** and click **OK**.
2. In the command window, enter the following:

   C:\Program Files\Support Tools>dsacls "cn=adminsdholder,cn=system,dc=<*xxx*>,dc=<*yyy*>" /G "\<*MM Security Group*>:CA;Send As"

   where **dc=<xxx>,dc=<yyy>** is the customer's fully qualified domain name (for example, **dc=Avaya,dc=com**) and **<MM Security Group>** is the name of the Modular Messaging Service Permissions Group.

   It will take at least an hour for the security permissions to replicate to the protected groups and their members.

Assigning additional permissions

Procedures for assigning permissions are different for Exchange 2003 and Exchange 2007 message stores. Select the procedure that applies to your environment:

- Assigning Permissions with Exchange 2007 on page 21
- Assigning Permissions with Exchange Exchange 2003 on page 23

Assigning Permissions with Exchange 2007

With an Exchange 2007 mail server, assign permissions to the group by adding the required permissions.

Note:

You may skip this section if you have already run the Exchange shell script. For more information Using Power Shell to create a Modular Messaging Service Permissions Group on page 18

In systems with Exchange 2007 mail servers, the Modular Messaging Service Permissions Group must be a member of the Exchange Recipient Administrators group. For more information, see Creating the Modular Messaging customer account on page 13.

Adding permissions with Exchange 2007

Use **Active Directory Sites and Services** to add the required permissions. The permissions listed in step 14 are the absolute permissions required. You should match these permissions exactly. Adding permissions or removing some of the listed permissions could impact the installation and administration of the MM system. For convenience, all the properties should be created at the Exchange Organization level. You can choose to apply them at a level lower down the tree if required, but this might affect your ability to manage Modular Messaging using Exchange System Manager.

To assign permissions to the Modular Messaging customer account:

1. Log on to the Active Directory server using an account that has privileges to assign permissions to accounts (such as *administrator*).
2. Click **Start** > **Programs** > **Administrative Tools** > **Active Directory Sites and Services**.
3. In the left pane, select **Active Directory Sites and Services**.
4. From the **View** pull-down menu, select **Show Services Node** (the menu item shows a check mark after you select it).
5. In the left pane, expand **Services**, expand **Microsoft Exchange**, and then locate the appropriate *Exchange Organization* object that Modular Messaging will connect to. Right-click it and select **Properties**.
6. In the **Properties** window, click the **Security** tab.

   Note:

   In an environment with both Exchange 2003 and Exchange 2007 mail servers, the Security tab may not be visible. Enable it by adding the **ShowSecurityPage** registry key. For more information see, Editing the registry on page 23. You can complete this procedure only on an MAS that has Exchange 2003 System Management Tools installed.
7. Click **Add**.
8. In the **Select Users, Computers, and Groups** window, add the Modular Messaging Service Permissions Group (such as *MM Service Permissions*).
9. Click **OK** to close this window.
10. Under **Permissions** for the group, **Allow** permission for **Read** and click **Apply**.
11. Click **Advanced**.
12. On the **Advanced Security Settings** window, on the **Permissions** tab, check the box at the bottom of the window that will **Allow inheritable permissions from the parent to propagate to this object and all child objects**.
13. Click **Add** and add the Modular Messaging Service Permissions Group (such as *MM Service Permissions*). Click **OK** to close the window.
14. Complete the following steps to add permissions to the Modular Messaging Service Permissions Group:

a. In the **Apply onto** field, select **This object and children objects**.

b. Verify that the following box is *not* checked, **Apply these permissions to objects and/or containers within this container only**.

c. In the Permissions box, allow the following. Note that certain selections will result in the application of additional permissions. For details on these permission requirements, see Send As permission on page 343

- List contents
- Read all properties
- Write all properties
- Read permissions
- Create all child objects
- Administer information store
- Create named properties in the information store
- Receive As
- Send As
- View information store status

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

- Read
- Execute

d. Click **OK** to close the **Permission Entry** window.

e. Click **OK** to close the **Advanced Security Settings** window.

f. Click **OK** to close the **Properties** window.

Assigning Permissions with Exchange Exchange 2003

With an Exchange 2003 mail server, to assign permissions to the group, you must:

1. Edit the registry to display the security tab.
2. Add required permissions.

Editing the registry

By default, the **Security** tab for the Exchange organization container and some of the key sub containers are not visible using Exchange System Manager or Active Directory Sites and Services. The following registry change enables the **Security** tab at all levels within the Microsoft Exchange container.

To update the registry:

1. Log on as the Microsoft Exchange administrator.
2. Click **Start** > **Run**.
3. In the **Run** window **Open** field, type **regedit** and press **Enter**.
4. In the **Registry Editor** window, locate the following key:

   HKEY_CURRENT_USER\Software\Microsoft\Exchange\ExAdmin
5. Right-click **ExAdmin** and select **New** > **DWORD Value**.
6. Enter the following value name: **ShowSecurityPage**
7. Double-click the **ShowSecurityPage** value.
8. In the **Edit DWORD Value** window, set the Value data to **1**.
9. Click **OK** to close this window.
10. Click **OK** to close the **Registry Editor** window.

Adding permissions with Exchange 2003

Use **Active Directory Sites and Services** to add the required permissions. The permissions listed in Step 7 are the absolute permissions required for the Modular Messaging software to function. For convenience, all the properties should be created at the Exchange Organization level. You can choose to apply them at a level lower down the tree if required, but this might affect your ability to manage Modular Messaging using Exchange System Manager.

To assign permissions to the Modular Messaging customer account:

1. Log on to the Active Directory server using an account that has privileges to assign permissions to accounts (such as *administrator*).
2. Click **Start** > **Programs** > **Administrative Tools** > **Active Directory Sites and Services**.
3. In the left pane, select **Active Directory Sites and Services**.
4. From the **View** pull-down menu, select **Show Services Node** (the menu item shows a check mark after you select it).
5. In the left pane, expand **Services**, expand **Microsoft Exchange**, and then locate the appropriate *Exchange Organization* object that Modular Messaging will connect to. Right-click it and select **Properties**.
6. In the **Properties** window, click the **Security** tab. This tab is visible only if you edited the registry as directed in the previous procedure.
   a. Click **Add**.
   b. In the **Select Users, Computers, and Groups** window, add the Modular Messaging Service Permissions Group (such as *MM Service Permissions*).
   c. Click **OK** to close this window.

7. Under **Permissions** for the group, **Allow** the permissions listed below. For details on these permission requirements, see Appendix K: Administrator reference on page 341.

   Note:

   You may find it easier to verify the permissions by working from the bottom of the list to the top.

   - Read
   - Execute
   - Read permissions
   - Create children
   - List contents
   - Read properties
   - Write properties
   - Administer information store
   - Create named properties in the information store
   - View information store status
   - Receive As
   - Send As
8. Click **Apply** to verify the settings.
9. Click **OK** to close this window.
10. Close the **Active Directory Sites and Services** window.
11. Wait for the directory cache to expire.

Creating MAS computer accounts

Before the Modular Messaging software is installed, the domain administrator must create computer accounts for each MAS and supplementary server that are to be installed and define the Modular Messaging customer account as a user that has permission to join the Windows domain. This procedure facilitates remote access setup (see Setting up each server for remote access on page 27) and Modular Messaging software installation.

For example, to add a new computer account to the Active Directory on a Windows 2003 R2 or 2008 system (note that options differ for a Windows 2000 system):

1. Log on to the Active Directory server using an account that has privileges to add a computer account to a domain (such as *Administrator*).
2. Click **Start** > **Programs** > **Administrative Tools** > **Active Directory Users and Computers**.
3. In the **Active Directory Users and Computers** window, expand the directory for the Windows domain that you will use for Modular Messaging.
4. To create a new computer account, right-click **Computers**, and then select **New** > **Computer**.
   a. In the **New Object - Computer** window, type the computer name for the MAS.
   b. Click **Next**.
   c. Do not select “this is a managed computer.” Click **Next**.
   d. Click **Finish** to close this window.
   e. In the left pane, click **Computers**.
   f. Right-click the computer name. Select **Properties**. In the **Properties** window, select the **Managed by** tab.
   g. Click **Change** to specify that a different user or group can add this computer to the domain.
   h. In the **Select User or Group** window, enter the customer account name (such as *mmacct*). Then click to select that name.
   i. Click **OK** to close this window.
   j. Click **OK** to close the **Properties** window.
5. If more than one MAS is to be installed, repeat Step 4 until all MASs are added.

Setting up each server for remote access

Remote access allows technical support staff to dial into a system to correct problems and perform routine maintenance. Unless other arrangements were made, use the following procedure to allow each Modular Messaging server to support remote access calls.

1. The **Active Directory Users and Computers** window should already be open. If not, repeat Steps 1 through 3 in Creating MAS computer accounts on page 26 to log on to an account with the appropriate privileges and access the Active Directory.
2. In the left pane of the **Active Directory Users and Computers** window:
   a. Expand the directory for the domain that will be used for Modular Messaging.
   b. Click **Users**.
3. In the right pane, double-click **RAS and IAS Servers**.
4. In the **RAS and IAS Servers Properties** window:
   a. Click the **Members** tab.
   b. Click **Add**.
   c. In the **Select Users, Contacts, Computers, or Groups** window, double-click the entry for this server (for example, *MYMAS1*). It has a blue terminal icon.
   d. Verify that the correct computer name is shown underlined in the list box.
   e. Repeat Steps c and d to add all Modular Messaging servers to this list.
   f. Click **OK** to close this window.
   g. Click **OK** to close the **RAS and IAS Servers Properties** window.
5. In the right pane, double-click the account to be used for remote technical support, such as example *Services Account* or *Support Account*.
6. In the **Properties** window for the remote access account:
   a. Click the **Dial-in** tab.
   b. Under **Remote Access Permission (Dial-in or VPN)**, select **Allow access**.
   c. Leave CallBack Options set at **No Callback**.
   d. Close this and the next window.

Updating the Active Directory and data schema

Complete this task only once in the Active Directory Forest, on the directory server domain controller, before installing the Modular Messaging software on any MAS.

The Active Directory must be updated as described in this section.

Note:

This procedure can be done only on a machine that is running the Windows 2000 or 2003 R2 Server operating system. These components cannot be installed on a workstation OS.

To complete this update, you must log on to the directory server using an account that has permission to do Active Directory and data schema administration. This is usually the Windows domain administrator account. The account must have both Domain Admin and Schema Admin rights.

The Active Directory data schema must be updated before you install any Modular Messaging software on any Messaging Application Server (MAS) in the domain. The schema defines the objects and properties stored in Active Directory, and contains definitions of object attributes. The schema is updated only once in the *forest*.

For details about the changes made to the schema for a Modular Messaging software update, see Appendix K: Administrator reference on page 341.

CAUTION:

If you do not update the schema first when required, the Modular Messaging software will not install correctly. It will have to be completely removed and then reinstalled following an Active Directory schema update.

Logging on and preparing to update

To update the Active Directory for Modular Messaging:

1. Log on to the directory server using an account that has permission for Domain Administration and Schema Administration.
   - This account is usually the Windows domain administrator account. The account requires both Domain Administration and Schema Administration rights.
   - If you are updating the messaging software in a child domain, the account must have Domain Admin rights for both the parent domain and the child domain. If the Active Directory update is executed from the child domain controller, enter the account name in the format: *Parent Domain\Domain Admin*.

- If you are using Octel Analog Networking with an Exchange 2003 message store, this procedure must be performed on the domain controller that is acting as the schema master. Octel Analog Networking is not supported with Exchange 2007.

2. Close applications or stop monitoring as follows:
   - Close the Active Directory Users and Computers application and the Microsoft Exchange System Management Tools.
   - Close any open windows for other applications.
   - Stop any monitoring tools that are running, such as anti-virus software.

Adding the Schema Update registry key

This procedure is required only when applying schema updates on a domain controller. Complete the following steps to add the registry key that will allow schema updates:

1. Click **Start** > **Run**.
2. In the **Run** window **Open** field, type **regedit** and press **Enter**.
3. In the **Registry Editor** window, locate the following path:

   HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\NTDS\Parameters
4. In the right panel look for the REG_DWORD Name **Schema Update Allowed**. If it exists, double-click it and verify that the **Value data** field is set to **0**.
5. If the DWORD value does not appear in the right panel, right-click **Parameters** and select **New** > **DWORD Value**.
6. Enter the following name: **Schema Update Allowed**.
7. Double-click the **Schema Update Allowed** value.
8. In the **Edit DWORD Value** window, set the **Value data** to **0**.
9. Click **OK** to close this window.
10. Click **OK** to close the **Registry Editor** window.

Running the Modular Messaging installation wizard

When all preparations are complete, run the Modular Messaging Installation Wizard as follows:

1. Insert the *Avaya Modular Messaging Messaging Application Server Software* media (disk 1) into the DVD drive of the directory server.
2. Run the Modular Messaging Installation Wizard as follows:
   a. Navigate to the **Install** directory on the DVD drive.
   b. Double-click the file **Setup.exe**.
3. On the main screen, verify that the Configuration drop-down box shows **Microsoft Exchange**.

Updating the Active Directory

To update the Active Directory and data schema (if required) on this machine:

1. Click the plus sign (**+**) to expand the **Active Directory updates** folder.

   Note:

   Do this task only once in the Active Directory Forest.

2. Select the following check boxes to install the appropriate software components to support Modular Messaging:
   - *Enable Modular Messaging:* Click this box to enable extension data replication among Active Directory servers. This allows Modular Messaging to store subscriber configuration information and support the correct operation of and access to client applications.
   - *Enable Octel Analog Networking:* For systems using an Exchange 2003 message store, if Octel Analog Networking is used at this site, click this box to add the appropriate classes and attributes to the schema. This causes a Modular Messaging Octel Analog Networking tab to appear in the Microsoft Exchange administration program. Octel Analog Networking is not supported for Exchange 2007.
   - *Enable User Administration:* Click this box to enable objects that will appear on the Modular Messaging tab in the Active Directory. This allows administrators to use Microsoft Exchange administration to enable Modular Messaging features for users, groups, or contacts.

   Note:

   Although Octel Analog Networking is an optional feature, you might choose to install it at this time in case Octel Analog Networking is ever added to the system. The other schema updates are always required.

3. When all required components are selected, click **Install**.

4. Each component you select causes a Modular Messaging Active Directory installation wizard to run. Complete each wizard as follows:
   a. On the welcome screen, click **Next**.
   b. If prompted, enter the name and password of an account that has both Domain Admin and Schema Admin rights. (For example, *windowsdomain**schemaAdmin* and password.) Click **Next**.
   c. After the Active Directory registration process is complete, click **Next**.
   d. To complete the wizard, click **Finish**.
   e. Repeat Steps a through d for each occurrence of the wizard.
5. When component installation is complete, click **Close**.
6. Continue with Chapter 3: Adding Exchange extensions for Modular Messaging on page 33.

Chapter 3: Adding Exchange extensions for Modular Messaging

This chapter describes how to install the Microsoft Exchange extensions that support user administration for Modular Messaging software. Installing the Subscriber Administration extensions creates a Modular Messaging tab in the Active Directory. However, the page is not functional until the Modular Messaging software is installed and operational.

Do this task on any machine that you will use for administering subscribers (such as the Exchange server, an MAS, or a client machine). You can do this task multiple times per network.

Note:

You will not be able to add the extensions to an MAS until you install the Modular Messaging software. See Chapter 4: Configuring an Avaya MAS on page 39, or Chapter 5: Configuring a customer-provided MAS on page 55.

For new installations, you must have successfully completed the tasks in Chapter 2: Preparing to install Modular Messaging software on page 11 before you can add the Exchange extensions.

Topics in this chapter include:

- Overview on page 34
- Adding the Exchange extensions on page 35

Overview

This task assumes that you have already created a Modular Messaging customer account and updated the directory server as described in Chapter 2: Preparing to install Modular Messaging software on page 11.

CAUTION:

If the Active Directory has not been updated as described in Chapter 2: Preparing to install Modular Messaging software on page 11, do not proceed with the steps in this chapter. The Modular Messaging software will not install correctly, and it will have to be completely removed and reinstalled after the Active Directory updates have been made.

To successfully install the Modular Messaging Microsoft Exchange Subscriber Administration extensions, you need:

- Access to the *Avaya Modular Messaging Messaging Application Server Software* media (disk 1).
- Downtime scheduled for the Microsoft Exchange server
  - *Exchange 2003 server:* This release of Exchange does not require the Subscriber Administration extensions or Octel Analog Networking Administration component to be installed on the Exchange server. If you choose to install them, the Exchange server may need to be rebooted (see the following note).

Note:

You can install the Modular Messaging Subscriber Administration extensions component on any machine that has the Microsoft Exchange 2003 System Management Tools installed.

To use the Modular Messaging Active Directory Extensions for administration, you must have sufficient rights on the Active Directory to modify users.

Note:

If Octel Analog Networking is used at this site, you can install the Octel Analog Networking Administration component on any machine where the Microsoft Exchange System Management Tools are installed.

  - *Exchange 2007 server:* Modular Messaging Subscriber Administration Extensions are not supported on 64 bit Windows 2003 servers and on 64 bit Windows 2008 servers.

  Install the Modular Messaging Subscriber Administration extensions component on a machine that has the Microsoft Exchange 2007 Management Tools installed. Modular Messaging supports installation of the tools only on machines running a 32-bit operating system, not a 64-bit operating system. You must install the 32-bit version of the Exchange 2007 Management Tools, which can be downloaded from Microsoft. For more information about downloading and installing the Exchange 2007 Management Tools, see Installing

third-party software on page 46.

The Subscriber Administration extensions add a tab to the Active Directory Users and Computers property page that is used for Modular Messaging subscriber administration. However, the tab is not added if the system is running on Windows Server 2008 based Active Directory. In this case, you can install Subscriber Administration Extensions on any other machine in the same domain, including a Windows 2008 member server, and use it for setting up and administering Modular Messaging accounts. Any machine on which you install the Subscriber Administration extensions may require a reboot.

To use the Modular Messaging Active Directory Extensions for administration, you must have sufficient rights on the Active Directory to modify users.

CAUTION:

All servers must meet the requirements listed in the *Avaya Modular Messaging Concepts and Planning Guide*. Review this document to verify that all Exchange servers, directory servers, MASs, and client machines are ready to support Modular Messaging software.

Note that the Microsoft Exchange 2003 System Management Tools or Exchange 2007 Management Tools must be installed on the machine where you install the Modular Messaging Exchange extensions.

Adding the Exchange extensions

Complete this task for any machine that you will use for administering subscribers (such as the Exchange server, or a client machine). You can do this task multiple times per network.

Update the Microsoft Exchange extensions as follows:

- *For new installations:* Install these tools on the Exchange server, or other machine where they are required.
- *For upgrades:* Update the Exchange extensions software on any machines where it is installed.

Note:

Review the conditions for installing these Modular Messaging software components in the Overview on page 34. For an MAS, you will install the Subscriber Administration extensions component when you install the rest of the Modular Messaging software. See Chapter 4: Configuring an Avaya MAS on page 39, or Chapter 5: Configuring a customer-provided MAS on page 55.

*Although this procedure creates a Modular Messaging tab in the Active Directory, the page will **not** be functional until after the rest of the Modular Messaging software is installed and operational.*

Logging on and preparing to update

To update the Microsoft Exchange extensions for Modular Messaging:

1. Log on to the appropriate machine using an account that has permission to install software.
2. Close applications and stop monitoring on this machine as follows:
   - Close the **Active Directory Users and Computers** window, if that application is installed on this machine.
   - Close any open Exchange applications including the Microsoft Exchange Management Tools.
   - Close any open windows for other applications.
   - Stop any monitoring tools that are running, such as anti-virus software.

Running the Modular Messaging installation wizard

When all preparations are complete, run the Modular Messaging Installation Wizard:

1. Insert the *Avaya Modular Messaging Messaging Application Server Software* media (disk 1 of 2) into the DVD drive of this machine.
2. To run the Modular Messaging Installation Wizard:
   a. Navigate to the DVD drive (such as D:) and, from there, to the **Install** directory.
   b. Double-click the file **Setup.exe**.
3. On the main screen, verify that the Configuration drop-down box shows **Microsoft Exchange**.

Adding the Exchange extensions

To add the Exchange extensions tools to this machine:

1. Click the plus sign (**+**) to expand the appropriate Exchange extensions folder. Select the correct extensions for the version of Exchange that is installed on this machine:
   - Active Directory (also used for Exchange 2003 and 2007 systems)
2. To install the Modular Messaging software components required for Microsoft Exchange systems on this machine, select the appropriate check box:
   - *Octel Analog Networking Administration:* If Octel Analog Networking is used at this site, click this box to allow administrators to administer an Octel Analog Networking gateway. This allows Modular Messaging subscribers to exchange voice messages with any other Octel Analog Networking-enabled voice mail system. Not supported with Exchange 2007.
   - *Subscriber Administration:* Click this box to add a Modular Messaging property page in Active Directory Users and Computers for each user that is assigned a mailbox. This tool allows administrators to set up and administer Modular Messaging accounts, configure subscriber properties, and run the MM Client software (the Subscriber Options package). For a Windows server 2008 based Active Directory, follow the procedures mentioned in Installing Subscriber Administration on an MAS on page 43.
3. When all required components are selected, click **Install**.
4. When all components finish installing, click **Close**.
5. If you are prompted to restart the system, click **Restart**.

Note:

After the Exchange extensions are installed, a Modular Messaging tab appears. However, it is not functional until installation of the MAS is complete.

Chapter 4: Configuring an Avaya MAS

This chapter applies only to an Avaya-provided Messaging Application Server (Avaya MAS) and supplementary server installation. This chapter describes Modular Messaging MAS installation on an Avaya provided hardware.

If you are installing a customer-provided MAS, do not use the procedures in this chapter, see Chapter 5: Configuring a customer-provided MAS on page 55.

Topics in this chapter include:

- Completing MAS configuration prerequisites on page 40
- Displaying an MAS from the console on page 42
- Configuring MASs using an existing DCT data file on page 44
- Completing the MAS configuration on page 48
- Continuing the installation on page 53

Completing MAS configuration prerequisites

You must configure each new Avaya Messaging Application Server (Avaya MAS) for local operating settings and to work correctly on the corporate local area network (LAN) as described in this section. In addition, you must prepare it to operate correctly in the Microsoft Windows and Exchange environment.

The majority of the MAS configuration is automated by the Modular Messaging Configuration Wizard (MMCW). The MMCW configures the MAS from information in a site-specific configuration file, called a Data Collection Tool (DCT) data file (*.mmdct). This file is created using the DCT executable file (MMDCT.exe). Typically the DCT data file is created prior to the installation by the project manager, customer administrator, and other experts responsible for the installation.

See the DCT online help system or its printed version, *Avaya Modular Messaging Data Collection Tool Help*, for a complete description of the procedure and specifications for creating a DCT data file.

Note:

Always check the Avaya Support Web site at http://www.avaya.com/support for recent updates to the DCT executable file (MMDCT.exe).

To successfully set up an Avaya MAS, you need:

- A complete and valid DCT data file.
- All the required system hardware are installed; see *Installing the Avaya S8730 Server for Modular Messaging* guide.
- A printout of the Avaya MAS installation checklist (see New Modular Messaging installation on an Avaya MAS on page 216). Check off steps as you complete them to track your progress.
- The *Avaya Modular Messaging Messaging Application Server Software* DVDs.
- Microsoft Exchange Server MAPI Client for Microsoft Exchange 2007. Download the MAPI from the following site:

  http://www.microsoft.com/downloads/details.aspx?FamilyID=e17e7f31-079a-43a9-bff2-0a110307611e&DisplayLang=en
- The following software from the Avaya Support Web site at http://www.avaya.com/support. For more information about how to access these items on the Web site, see Downloading required software and documentation on page 3.
  - Avaya software updates that are required to bring the Modular Messaging software up to date after an installation. Download this software to a USB storage device. For more information about downloading the updates, see Downloading required software and documentation on page 3.

  - The latest copy of the DCT executable file (MMDCT.exe). Download the file from the Avaya support Web site to a USB storage device. Download the executable file to the same USB storage device as the DCT data file.
  - The Modular Messaging 5.1 Client software.

- Customer-provided Microsoft Exchange System Management Tools. For more information, see Installing third-party software on page 46.
  - For installing a system with Exchange 2007 mail servers, you will require the 32-bit version of the Exchange 2007 Management Tools, Microsoft Exchange 2007 Service Pack 1, and additional software downloads. You may download the 32-bit version of the Exchange 2007 Management tools from:

    http://www.microsoft.com/downloads/details.aspx?FamilyID=444C259E-605F-4A82-96D5-A2F448C9D4FF&displaylang=en
  - For installing a system with Exchange 2003 mail servers, you will require Microsoft Exchange Service Pack 2 for Exchange 2003 System Management Tools, and additional software downloads.

Displaying an MAS from the console

Since you have not logged on as an administrator to the system, you cannot access the server from the console (monitor) that is connected to another server through the KVM switch.

1. To turn on the S8730-family server, press the power button on the front of the server, until the LED turns green. For more information, see *Installing the Avaya S8730 Server for Modular Messaging* guide.
2. Verify that the monitor is showing the correct server:
   - For a 2-port Belkin KVM switch, you must connect the MAS to one of the two computer ports.
   - For an 8-port Belkin KVM switch, the first MAS port is labeled **VGA 02**. You must connect the subsequent MASs to the computer ports **VGA 03**, **VGA 04**, and so on.
3. If the monitor displays a different server, toggle the ports to show the correct server:
   - To have a 2-port Belkin KVM switch show a different server:
     a. Gently press **Scroll Lock** twice.

        The LED on top of the Belkin KVM switch starts to blink.

     b. Type the port number on the keyboard. For example, type **2** for port 2.
   - To have an 8-port Belkin KVM switch show a different server:
     a. Gently press **Scroll Lock** twice within 2 seconds.
     b. To display the server, use one of the following methods:
        - Press the up (or down) arrow key to change to the server connected to a higher (or lower) port number.
        - Type the port number on the keyboard. For example, type **2** for port 2.
        - You might see **System Event Log Full** message when the system boots. You can ignore this error message. Modular Messaging does not use this log.

For complete user and troubleshooting instructions, see the KVM switch documentation

Installing Subscriber Administration on an MAS

Note:

Perform the following procedures only if you are installing Subscriber Administration for Windows Server 2008 based Active Directory or upgrading Active Directory from Windows server 2003 to Windows server 2008.

1. Log on to the MAS.
2. Insert the *Modular Messaging R5.1 MAS Application (DVD 1 of 2) media* in the DVD drive of the MAS.
3. Run the Modular Messaging Installation Wizard as follows:
   a. Browse to the **Install** directory on the DVD drive.
   b. Double-click on **Setup.exe**.
4. In the the Modular Messaging installation wizard, verify that the **Configuration** drop-down displays Microsoft Exchange.
5. To expand the Active Directory extensions, click the plus sign (**+**).
6. Select the **Subscriber Administration** check box.
7. Click **Install**. The system prompts you to uninstall Modular Messaging Release 5.1 components from your system.
8. Click **Continue** to uninstall Modular Messaging Release 5.1 components from your system. You are prompted to restart the system.
9. After the reboot, perform steps 5 through 7 again to install Subscriber Administration.
10. Click **Close** after the installation is completed.
11. From **Windows Control Panel**, open **Add or Remove Programs**. Locate Modular Messaging Uninstallation Wizard.
12. Click **Change**.
13. Under Patches, select all installed patches and click **Uninstall**.
14. After the uninstallation completes, close the Wizard.
15. Install the latest Modular Messaging Release 5.1 upgrade application from Avaya Support site at http://www.avaya.com/support.
16. Click **Start > Programs > Administrative Tools > Active Directory Users and Computers**.
17. In the left pane, click **Users**.

18. In the right pane, locate the Modular Messaging user and double-click on it. The Modular Messaging tab gets displayed in the **Properties** window.

Configuring MASs using an existing DCT data file

Use the Avaya Modular Messaging Configuration wizard to access the DCT data file to configure the MAS information automatically.

CAUTION:

Configure each Avaya Messaging Application Server (Avaya MAS) beginning with MAS#1. If you are configuring additional MASs or Supplementary server, use the same data file that you used for MAS#1. *Do not* create a new DCT data file for each MAS or Supplementary server.

1. Verify that you completed the prerequisites before you configure MAS. For more information, see Completing MAS configuration prerequisites on page 40.
2. Ensure that the Exchange server is running.
3. Boot the MAS you want to configure and display it using the console; see Displaying an MAS from the console on page 42.

   When an MAS server boots at this stage of an installation, the Avaya Modular Messaging Configuration wizard runs automatically.
4. Insert the storage device that contains the DCT data file into the server.
5. On the Welcome screen of the **Avaya Modular Messaging Configuration** wizard, click **Next**.
6. On the **Locate Configuration Data** screen, select the appropriate DCT data file for the site. If the required DCT data file is not displayed, click **Browse** and complete the following:
   a. In the **Open** window, click the drop-down list next to **Look in**.
   b. Select the storage device.
   c. Navigate to the appropriate folder on the storage device and double-click the appropriate data file, such as *sitefile.*mmdct.
7. Click **Next**.
8. When the system prompts you to confirm the data file, click **Yes**.

   The wizard opens the Avaya Modular Messaging Data Collection Tool. The DCT executable file (MMDCT.exe) launches with the DCT data file that you selected. Review and make any necessary changes to the file.
9. On each DCT window you must do the following:
   a. Verify the data on each screen and click **Next**.

Note:

For more information about completing or verifying the data on each screen, see the DCT online help.

b. Under **MM servers**, select **Message store**. The system displays the **Message store screen**.

c. For an Avaya-provided server, if not already selected, select **Microsoft Exchange with Avaya MAS servers**.

d. Click **Complete** to continue the configuration process.

The system prompts you to save the file.

e. You *must* ***Save the file*** even if no changes were made.

CAUTION:

The installation fails if the DCT file is not saved.

The system returns you to the Avaya Modular Messaging Configuration Wizard.

10. On the Messaging Application Server Number screen, specify the **MAS number** field for this server.
    - You *must* configure MAS#1 first.
    - Configure each server in order, including the Supplementary server, if present.
    - If required, change the **MAS number** field to show the correct number for this server.
11. Click **Next**.

    The Configuring System screen shows the progress information of the MAS configuration. The Sysprep window opens. The server then reboots. After the reboot, the system runs the Windows Setup wizard.
12. Do the following to complete the wizard:

    a. On the License Agreement screen, select **I accept this agreement**. Click **Next**.

    b. On the Your Product Key screen, type the Windows product key for this server.

    - Each Windows computer has a unique product key for the Windows 2003 R2 operating system. Enter the exact number.
    - On a new S8730-family server, the product key sticker is located on the right-hand edge of the server chassis.

    c. Click **Next**.

    The Avaya Modular Messaging Configuration Wizard displays the configuration status on the Configuring System screen.

Note:

During the system configuration, the Avaya Modular Messaging Configuration Wizard reboots the server multiple times and automatically logs on. If during this stage of the installation the automatic logon fails, log on manually to the server as the Modular Messaging Customer Account.

13. Complete the tasks outlined in Installing third-party software on page 46.

Installing third-party software

To install third party software, perform the following:

- If you are installing third-party software from a mapped network drive, update Windows Internet Explorer 7 security. See Updating Windows Internet Explorer 7 security on page 46.
- For Exchange 2007, see Installing third-party software for Exchange 2007 on page 47
- For Exchange 2003, see Installing third-party software for Exchange 2003 on page 47

Updating Windows Internet Explorer 7 security

If you are installing third-party software from a mapped network drive, complete the following steps to update Internet Explorer 7 security. If you do not make this update and you use a domain account to install third-party software, Windows will not allow the installation. This procedure is not necessary if you are installing third-party software from a disk or other removable media such as a USB storage device.

1. Map to the network drive where the third-party software resides.
2. Launch Windows Internet Explorer 7.
3. If a window appears that states Windows Internet Explorer Enhanced Security is enabled: click **OK**.
4. From the browser, select **Tools > Internet Options**.
5. On the **Internet Options** window, select the **Security** tab.
6. In the **Select a zone to view or change security settings** box, click **Local intranet**.
7. Click **Sites**.
8. On the **Local intranet** window, in the **Add this website to the zone** field, type the universal naming convention (UNC) path of your mapped network drive, using the format: \\<***computername***>\<***share***>. Click **Add**.
9. Click **OK** to close the Local intranet and Internet Options windows.

Installing third-party software for Exchange 2007

Use the procedures in this section to install third-party software when installing Modular Messaging with an Exchange 2007 peer mail server.

When prompted to install third-party software:

1. Install the MAPI client by double-clicking the MAPI executable file.
2. Install Microsoft Exchange 2007 Management Tools:
   a. Double-click the tools executable file.
   b. Double-click the extracted Microsoft Exchange Installation wizard.
   c. Complete the Microsoft Exchange Installation Wizard selecting **Custom Exchange Server Installation**. Elect to install the **Management Tools**. For details about this procedure, see the Microsoft Exchange documentation.

   You may be prompted to download and install additional components and hotfixes. Follow the installation prompts. Be sure to download the Windows 2003 32-bit version of each component.
3. If prompted, reboot the system.
4. Verify that the Exchange Management Tools can communicate with the Exchange 2007 mail server.
5. Follow site-specific procedures to install Microsoft Exchange Server 2007 Service Pack 1.
6. Install antivirus software.see Administering anti-virus software on page 48.
7. After installing third-party software, continue with Completing the MMCW configuration on page 48.

Installing third-party software for Exchange 2003

When prompted to install third-party software:

1. Insert the customer-provided Microsoft Exchange Server media in the MAS drive.
2. Install the management tools by completing the Microsoft Exchange Installation Wizard.
3. If you receive a compatibility warning, click **Continue**.
4. For details about this procedure, see the Microsoft Exchange documentation.
5. Install Microsoft Exchange Service Pack 2 and additional software downloads.
6. Installing anti-virus software. See Administering anti-virus software on page 48.

Completing the MMCW configuration

7. When MAS configuration is complete, the progress bar stretches across the window and the Next button becomes active. Click **Next**.
8. On the **Modular Messaging Wizard Completed** screen, click **Finish**.
9. To complete setup of the Modular Messaging server, proceed to Completing the MAS configuration on page 48.

Completing the MAS configuration

To complete setup of the server complete the following tasks as necessary:

- Administering anti-virus software on page 48
- Installing software updates on page 49
- Changing LAN settings on page 50
- Entering RAS IP addresses on each MAS on page 51
- Configuring MAS port boards on page 52
- Continuing the installation on page 53

When you have completed the procedures required for your system, proceed to Configuring the voice mail system on page 77.

Administering anti-virus software

Avaya strongly recommends that anti-virus software be installed on any Microsoft Windows computer that runs Avaya Modular Messaging software. The type of virus-checking software used and the method of installation depends on customer requirements and the local implementation.

Guidelines for using anti-virus software on a computer that is running Avaya Modular Messaging software include:

- Consider the impact that anti-virus scanning has on the performance of the Avaya messaging servers. Avaya recommends the use of “on-demand” scanning, where scans are run at scheduled intervals. Avoid using a message-scanning method that could drastically impact the performance of the Avaya servers. For example, do *not* use “on-access” scanning, where scans are run whenever a file is accessed.

Note:

Some anti-virus software applications default to scan on startup. Disable this feature, or it increases the time that it takes a system to come back online after a reboot.

- Avaya recommends administering the anti-virus software as follows:
  - Scan the hard disk at least once per week during off peak hours. Avaya recommends a daily scan. You can run scans on multiple Modular Messaging servers at the same time. However, avoid scheduling the anti-virus scan at the same time as when a scheduled backup occurs on the MAS.
  - Schedule virus definition updates to occur automatically at least once per week. The updates must occur before the next scheduled scan time to ensure that the latest data (DAT) files are used during the scan. However, do not schedule updates to occur during a virus scan.
  - If the anti-virus software locates a virus, it should first attempt to clean the file. If that fails, the software should move the file to a different directory.

Information about anti-virus interoperability of Avaya Modular Messaging software with various anti-virus products and performance testing is available. The information addresses security issues such as reporting concerns and receiving notifications. For more information, see *Anti-Virus Software on Microsoft Windows-based Avaya Messaging Products.*

Installing software updates

A new Modular Messaging system ships with the most current software that is available at the time. However, the software must be updated after an installation or upgrade to include the latest changes. The updates might be in the form of an Avaya Service Pack (SP) or a software patch (hot fix).

To determine if a Modular Messaging software update is needed:

1. Locate any relevant Avaya software updates on the Avaya Support Web site at http://www.avaya.com/support. For complete steps, see Obtaining software updates from the Web on page 307.

   Note:

   If you followed the procedure for Downloading software updates on page 4, you already downloaded any required software updates.

2. If the Modular Messaging system requires a software update, complete the update procedure now before you do acceptance testing. Follow the instructions in Appendix F: Updating Modular Messaging software on page 307 to update the system with the latest changes.

Changing LAN settings

Changing default LAN name and Power Management settings

Note:

You cannot modify the power management settings for the Avaya S8730 servers. You can only modify power management settings for the Avaya S3500 servers.

Rename the corporate LAN connection for this MAS so that it is easier to identify and change the LAN power management settings. Complete the following steps:

1. . Click **Start > Settings > Network Connections**.

   The **Network Connections** window opens.

2. Identify the corporate LAN on this server. This LAN has device name **Intel PRO/1000 CT Multifunction Gigabit Server Adapter #2**. The corporate LAN is labelled **Local Area Connection**.

   Rename this item as follows:

   a. Right-click the text **Local Area Connection** and select **Rename**.

   b. Change the name to **Corporate LAN**.

3. Change the Power Management settings for the LAN connection:

   a. Right-click the LAN connection and select **Properties**.

   b. Click **Configure**.

   c. Click the **Power Management** tab.

   d. Clear the **Allow the computer to turn off this device to save power** check box.

4. Close any LAN-connection windows.

Disabling the private LAN

The Modular Messaging private LAN is not used with Microsoft Exchange configurations. Disable the private LAN by completing the following steps:

1. In the **Network Connections** window highlight either Intel 100+ PCI Adapter, or **HP NC373i Multifunction Gigabit Server Adapter,** whichever appears in the window. Right-click your selection. From the drop-down list, select **disable**.

2. In the **Network Connections** window, from the toolbar menu, select **Advanced** > **Advanced Settings**. Verify that the corporate LAN is listed at the top of the list of connections. If not, highlight the name of the corporate LAN and use the arrows to move it up in the list. When finished, close the **Advanced Settings** and **Network Connections** windows.

Entering RAS IP addresses on each MAS

The Avaya Modular Messaging Configuration Wizard automatically sets up inbound remote access to each MAS modem. You must edit the preprogrammed RAS IP addresses to use the addresses that the technical support organization requires.

CAUTION:

If Avaya is to support this system, you must enter the RAS IP addresses assigned by the Avaya Automatic Registration Tool (ART). Otherwise remote access for Avaya technical support will not work.

Complete the following steps for each MAS to set up the IP addresses on MAS to allow remote access:

1. Double-click the **Configure** icon on the desktop.
2. In the left pane of the **Configure** window, expand **Routing and Remote Access**.
3. Expand the server name.
4. Verify authentication:
   a. Highlight **Remote Access Policies**.
   b. On the right pane, double-click **Connections to Microsoft routing and remote access**.
   c. Click the **Edit Profile..** button.
   d. Select the **Authentication** tab.
   e. Make sure that all check boxes (except for the **Unauthenticated access** check box) are selected. If necessary, clear the **Unauthenticated access** check box.
   f. Click **OK**.
   g. If a dialog box appears, click **No**.
   h. Click **OK**.
5. Right-click the server name from the pop-up menu and select **Properties**.
6. Set up PAP security:
   a. In the **Local Properties** window, click the **Security** tab.
   b. Click **Authentication Methods...**
   c. Select **Unencrypted Password (PAP)**.
   d. Verify that all other check boxes are blank. If necessary, clear the check boxes.
   e. Click **OK**.
7. Set up a static IP address pool as follows:
   a. In the local **Properties** window, click the **IP** tab.
   b. Under **IP address assignment**, select **Static address pool**.

c. Add or edit the address range as follows:

- If the window shows an incorrect IP address range, select the displayed range and click **Edit**.

CAUTION:

If Avaya Moduar Messaging is to support this MAS, do not use the preprogrammed IP addresses. You must Edit and Remove these addresses for remote access to work.

- If no address range is already entered, click **Add**.

d. In the **Address Range** dialog box, enter the correct start and end IP addresses for this server.To get the start and end IP addresses, you *must* register your system.

e. Verify that the number of addresses is **2**.

f. Click **OK**.

g. In the **Adapter** field, select **Allow RAS to select adapter**.

h. Click **OK** to close the **Properties** window.

i. If a dialog box appears, click **No**.

j. Close the **Configure** window.

Configuring MAS port boards

Important:

If this MAS does not contain Dialogic port boards, skip the rest of this section and continue with Chapter 6: Configuring the voice mail system on page 77.

The Avaya Modular Messaging Configuration Wizard automatically configures the dialogic port boards for the following switch integrations:

- Avaya (QSIG)
- Cisco (QSIG)
- Nortel NT M-1 (QSIG)
- Siemens Hipath (QSIG)

If this MAS does *not* use one of the automatic-configuration switch integrations, you must configure the Dialogic port boards manually.

1. Continue with Appendix E: Configuring and testing port boards on page 293.
2. After you configure and test the Dialogic port boards, continue with Chapter 6: Configuring the voice mail system on page 77.

Continuing the installation

When you have finished installing the MAS, you must continue with configuring the voice mail system. See Configuring the voice mail system on page 77.

Chapter 5: Configuring a customer-provided MAS

This chapter applies only to a customer-provided Messaging Application Server (CPE MAS) and supplementary server installation. This chapter describes Modular Messaging MAS installation on a customer-provided hardware.

If you are installing an Avaya S8730 MAS, do not use the procedures in this chapter. See Chapter 4: Configuring an Avaya MAS on page 39.

CAUTION:

Before you can proceed with the tasks described in this section, a system administrator must have successfully completed the tasks in Chapter 2: Preparing to install Modular Messaging software on page 11.

Important:

Customer-provided equipment (CPE) for a Modular Messaging install or upgrade must match the specifications described in *Avaya Modular Messaging Concepts and Planning Guide*.

Obtain the current DCT data file for this site before you configure the customer-provided equipment (CPE) MAS. A person responsible for planning the installation creates the file using the Modular Messaging Data Collection Tool (DCT) before the Modular Messaging system is installed. The DCT data file has an extension **mmdct**, such as *sitefile.mmdct*. For more information, see *Data Collection Tool* guide.

Topics in this chapter include:

- CPE MAS configuration prerequisites on page 56
- Preparing the CPE MAS on page 57
- Configuring the CPE MAS on page 65
- Completing the CPE MAS configuration on page 71

CPE MAS configuration prerequisites

You can use a customer-provided equipment (CPE) server to support Modular Messaging software. However, you must first configure the server to support Modular Messaging in a Microsoft Exchange environment.

The majority of the Modular Messaging server configuration is completed by the Modular Messaging Configuration Wizard (MMCW). The MMCW configures the MAS from information in a site-specific configuration file called a Data Collection Tool (DCT) data file (*.mmdct). This file is created using the DCT executable file (MMDCT.exe). Typically the DCT data file (*.mmdct) is created prior to the installation by the project manager, customer administrator and other experts responsible for the installation.

See the DCT online help system or its printed version, *Avaya Modular Messaging Data Collection Tool Help*, for a complete description of the procedure and specifications for creating a DCT data file.

Note:

Always check the Avaya Support Web site at http://www.avaya.com/support for recent updates to the DCT executable file (MMDCT.exe).

To successfully set up a customer-provided server, you need:

- A complete and valid DCT data file.
- All required hardware installed as described in Appendix D: Installing Dialogic port boards in a customer-provided MAS on page 275.
- A printout of the customer-provided MAS installation checklist. See New Modular Messaging installation on a customer-provided MAS on page 220. Check off steps as you complete them to track your progress.
- The *Avaya Modular Messaging Messaging Application Server Software* DVDs.
- The following software from the Avaya Support Web site at http://www.avaya.com/support. For more information about how to access these items on the Web site, see Downloading required software and documentation on page 3.
  - Avaya software updates that are required to bring the Modular Messaging software up to date after an installation. Download this software to a USB storage device. For more information about downloading the updates, see Updating Modular Messaging software on page 307.
  - The latest copy of the DCT executable file (MMDCT.exe). Download the file from the Avaya support Web site to a USB storage device. Download the executable file to the same USB storage device as the DCT data file.
- Customer-provided Microsoft Exchange System Management Tools. For more information, see Installing third-party software on page 68.

- For installing a system with Exchange 2007 mail servers, you will require the 32-bit version of the Exchange 2007 Management Tools, Microsoft Exchange 2007 Service Pack 1, and additional software downloads. You may download the 32-bit version of the Exchange 2007 Management tools from:

  http://www.microsoft.com/downloads/details.aspx?FamilyID=444C259E-605F-4A82-96D5-A2F448C9D4FF&displaylang=en

- For installing a system with Exchange 2003 mail servers, you will require Microsoft Exchange Service Pack 2 for Exchange 2003 System Management Tools, and additional software downloads..

- When installing a system with Exchange 2007 mail servers, you will require Microsoft Exchange 2007 Service Pack 1. Microsoft Exchange 2003 Service Pack 2 for Exchange 2003 System Management Tools.
- Microsoft Windows 2003 Service Pack 2, if not previously installed.

Preparing the CPE MAS

Complete the following procedures to set up this customer-provided equipment (CPE) server to support Avaya Modular Messaging services.

- Installing Microsoft Windows 2003 R2 operating system on page 57
- Running recommended disk checks on page 58
- Disabling hyper-threading on page 58
- Installing modem drivers on the CPE MAS on page 58
- Adjusting system values on page 59
- Installing and enabling Microsoft Windows services on page 60
- Installing Microsoft Windows 2003 SP2 on page 62
- Installing Microsoft Windows updates and security patches on page 63
- Joining the Windows domain on page 63
- Adding Modular Messaging accounts to the local administrators group on page 64

Installing Microsoft Windows 2003 R2 operating system

Avaya recommends that you complete a new installation of Windows 2003 R2, when you perform new installations of Modular Messaging with CPE hardware. While installing Windows 2003 R2, ensure that you *only* install the Windows services listed in Installing and enabling Microsoft Windows services on page 60.

Setting a computer name

When installing Windows 2003 R2 on the server, provide a name to the computer.

When you run the Modular Messaging Configuration Wizard, the system does not automatically change the name of the computer as in an Avaya-provided MAS. You must manually provide the name of the computer before you run the Modular Messaging Configuration wizard.

Running recommended disk checks

Perform this procedure only for a supplementary server.

Avaya recommends that the hard disk drive in the server be maintained to prevent possible problems. The system administrator must run the following on a regular basis:

- Disk Defragmenter system tool
- **chkdsk** command

If this server is in service and has not been recently maintained, run the two recommended procedures.

Disabling hyper-threading

Important:
If you have CPE servers that support hyper-threading and that use IP H.323 switch integration, complete this task BEFORE doing anything with the Avaya Modular Messaging Configuration wizard.

Follow hardware-specific requirements to disable hyper-threading.

Installing modem drivers on the CPE MAS

For CPE MAS, the customer must install the drivers for serial adapters, serial port and the modem. Avaya does not take the responsibility of installing modems on the CPE MAS.

Adjusting system values

You must adjust some default values on the server to support Modular Messaging. Verify the following settings, and adjust them if needed:

Note:

Modular Messaging Release 5.1 configures the server to use a 3GB address space. If you require additional information about this change, contact your Avaya support organization.

1. Adjust the values for the Event Viewer:
   a. Right-click **My Computer** and select **Manage**.
   b. In the **Computer Management** window, in the left pane, expand **Event Viewer**.
   c. Adjust the application log values:
      1. Right-click **Application** and select **Properties**.
      2. On the **General** tab of the **Application Properties** window, under **Log size**, adjust the following values:
         - Avaya recommends that you set **Maximum log size** to at least 102400 KB.
         - Select **Overwrite events as needed**.
      3. Click **OK** to close this window.
   d. Adjust the system log values:
      1. In the right pane, right-click **System** and select **Properties**.
      2. On the **General** tab of the **System Properties** window, under **Log size**, adjust the following values:
         - Set **Maximum log size** to at least 4032 KB.
         - Select **Overwrite events as needed**.
      3. Click **OK** to close this window.
   e. Close the **Computer Management** window.
2. Right-click **Start** and select **Explore**. Adjust File and Printer Sharing properties:
   a. Right-click **My Network Places** and select **Properties**.
   b. Right-click **Local Area Connection** and click **Properties**.
   c. Select **File and Printer Sharing for Microsoft Networks** in the list box and click **Properties**.
   d. On the **Server Optimization** tab, select **Maximize data throughput for network applications**.
   e. Click **OK** to close this window.

f. Close the **Local Area Connection Properties** and **Network Connections** windows.

3. Adjust the Windows 2003 Server operating system values:
   a. Right-click **My Computer** and select **Properties**.
   b. Click the **Advanced** tab.
   c. Under **Performance**, click **Settings**.
   d. In the **Performance Options** window, click the **Advanced** tab.
      1. Under **Processor Scheduling**, select **Background services**.
      2. Under **Virtual memory**, click **Change**.
      3. The **Initial size** and **Maximum size** fields for the **Paging file size for selected drive** value vary by machine. Tailor these fields by adding 11 to the default value that is displayed as follows:
         - Under **Paging file size for selected drive**, set both the **Initial size** and **Maximum size** to the default value plus **11** MB.
         - Click **Set**.
         - Click **OK** to close this window.
      4. Click **OK** to close the **Performance Options** window.
   e. On the **Advanced** tab of the **System Properties** window, under **Startup and Recovery**, click **Settings**.
   f. In the **Startup and Recovery** window, under **System Failure**, verify that the check box to **Automatically restart** is checked. Click **OK**.
   g. Click **OK** to close this window.
4. Restart the server before continuing:
   - If you are prompted to restart the server, click **Yes**.
   - If the system does not prompt you, manually restart the server now. For example:
     a. Press **Ctrl** + **Alt** + **Del**, and then click **Shut Down**.
     b. Select **Restart** from the drop-down list and click **OK**.

   The server restarts.

Installing and enabling Microsoft Windows services

You must install and enable the Microsoft Windows services on each CPE MAS that handles voice calls as described in this section.

To install and enable all required Windows services:

1. Log on to an account that has permissions to install software on this computer, such as the local administrator account.
2. Remove any external hard drives from the MAS.
3. Insert the Microsoft Windows Operating System CD in the MAS drive.
4. Click **Start** > **Settings** > **Control Panel** > **Add or Remove Programs**.
5. In the **Add or Remove Programs** window, in the left column, click **Add/Remove Windows Components**.
6. To install Microsoft Windows services:
   a. In the **Windows Components Wizard** window, highlight **Application Server**. Click **Details**.
   b. Verify that the following items are checked:
      - Application Server Console
      - ASP.NET
      - Enable COM+ access
      - Message Queuing

      The **Internet Information Services (IIS)** checkbox becomes checked.
   c. Highlight **Internet Information Services (IIS)**. Click **Details**. Verify that the following items are checked:
      - Common Files
      - Internet Information Services Manager
      - World Wide Web Server

   Note:

   When you check these items, IIS gets checked automatically.

   The Internet Information Services items listed above are always required.

   If you plan to install the Microsoft Exchange 2003 System Management Tools, click the checkboxes for **NNTP Service** and **SMTP Service**. The SMTP Service automatically selects other required components as needed.

   If you plan to install the Microsoft Exchange 2007 Management Tools, do *not* install NNTP Service and SMTP Service.

   d. In the same window, highlight **World Wide Web Server** and click **Details**. Verify that World Wide Web Services is checked.
   e. Close this and the next two windows.
7. Install the Windows services to support SNMP:

a. in the **Windows Components Wizard** window, highlight **Management and Monitoring Tools** and click **Details**.

b. Click the checkbox to select **Simple Network Management Protocol** and click **OK**.

8. Install the Windows Fax Service, in the **Windows Components Wizard** window:

   a. Check **Fax Services**. Click **Next**.

   b. Select **Do Not Share Fax Printer** and click **Next**.

9. Complete the wizard to install the selected services.

   Note:

   If the required services were already installed (all the appropriate boxes were checked), click **Cancel** to close the wizard.

10. When the installation is complete, close the **Add or Remove Programs** window.
11. After the software is installed, enable each installed service as follows:

    a. Right-click **My Computer** and select **Manage**.

    b. In the left (Tree) pane, expand **Services and Applications**, and click **Services**.

    c. In the right pane, scroll down to the first new service that you installed. Double-click the service.

    d. In the **Properties** window:

       1. On the **General** tab, set the **Startup type** to **Automatic**. Click **Apply**.
       2. Under **Service status**, click **Start**.
       3. Wait for service to start, and then click **OK** to close this window.

    e. Repeat Steps c and d to enable each of the services you installed. Note that only a subset of these services might be present on a particular MAS.

12. When all services are enabled, close all open windows.

Installing Microsoft Windows 2003 SP2

Verify the service pack version on each CPE MAS and install an update if needed.

Complete the following to verify the version of the service pack installed:

1. Right-click **My Computer** and select **Explore**.

   a. In Windows Explorer, click **Help** > **About Windows**.

   b. In the version description, verify that Microsoft Windows Service Pack 2 is installed.

   c. Click **OK** to close this window.

   d. Close Windows Explorer window.

2. If needed, install Microsoft Windows Service Pack 2 on this MAS.

Installing Microsoft Windows updates and security patches

You must install the latest Microsoft Windows software, including operating system updates and security patches. These software updates protect the system from known security weaknesses. Check with the appropriate Windows administrator for the software update procedures to use at this site.

Avaya technical support representatives must follow the specified internal procedures to verify the software that is installed. If required, the support representative must update the software with the latest patches as instructed.

Joining the Windows domain

You must manually add this server to the appropriate Windows domain for this Modular Messaging system:

1. Switch the monitor to show this server.

   Use whatever method is required at this site to have the monitor display the MAS that you are administering.

2. Log on to the local administrator account for this server:
   a. In the **Log On to Windows** window, change the user name to the local administrator account name.
   b. Enter the password for this account.
   c. If the **Log in to:** field shows a different domain, use the drop-down box to select this server.
   d. Press **Enter** or click **OK**.
3. Right-click **My Computer** and select **Properties**.
4. In the **System Properties** window:
   a. Click the **Computer Name** tab.
   b. Click **Change**.
5. In the **Computer Name Changes** window:
   a. Under **Member of**, select **Domain**.
   b. Type the name for the corporate Windows domain.

Note:

Depending on the local configuration, you might need to enter the fully qualified name here.

c. Click **OK**.

d. Another **Computer Name Changes** window might open. If it does:

1. Enter the name of an account that has permissions to join the Windows domain. You usually use the Modular Messaging customer account, if the domain administrator has set up the account as described in Creating Modular Messaging customer and technical support accounts on page 13. The account name must be in the format ***domain\account name***, such as *domain1\mmacct*.
2. Enter the password for this account. Click **OK**.

6. If a Welcome to the domain message is displayed, click **OK**.
7. When prompted to restart, click **OK**.
8. Click **OK** to close the **System Properties** window.
9. If you are prompted to restart the server, click **Yes.**

Adding Modular Messaging accounts to the local administrators group

For the accounts to work correctly, you must add the Modular Messaging customer account and the technical support account to the local administrators group:

1. Log on to the local administrator account for this server.
2. Click **Start** > **Control Panel**.
3. Double-click **Administrative Tools**.
4. Double-click **Computer Management**.
5. Under **System Tools**, expand **Local Users and Groups**, and then click **Groups**.
6. Double-click the **Administrators** group in the right pane.
7. In the **Administrators Properties** window, click **Add**.
8. In the **Enter object names to select** pane, enter the names of the customer account and technical support remote access account. The account names must be in the format ***domain\account name*** (such as *domain1\mmacct*).

   Note:

   You can search for the accounts by entering a portion of the name in the **Enter the object names to select** pane, and clicking **Check Names**.

   After names are entered, click **OK**.

9. Click **OK** to close this window.
10. Close the **Computer Management** and **Administrative Tools** windows.

Configuring the CPE MAS

Before you use the updated DCT data file and run the Avaya Modular Messaging Configuration wizard to configure the server, you must complete the following procedures.

- Obtain the latest ***MMDCT.exe*** file. For details, see Downloading software updates on page 4.
- Obtain the required DCT data file (***.mmdct***).
- Ensure that the DCT file is accessible to the server that you install. Usually, this means inserting a storage device with the file into the server.

Running the Modular Messaging Configuration Wizard

The Modular Messaging Configuration wizard (MMCW) uses the DCT data file to configure the CPE MAS. You must install the Modular Messaging Configuration wizard (MMCW) to configure each CPE MAS.

Complete the following to configure the CPE MAS server using Modular Messaging DCT:

1. Verify that the USB storage device with the DCT data file (*.mmdct) and most recent DCT executable file (MMDCT.exe) is inserted in the USB port.
2. Turn the server on.
3. Log on to the MAS using the Modular Messaging customer account created in Creating Modular Messaging customer and technical support accounts on page 13.
4. Insert the ’Avaya Modular Messaging R5.1 MAS Application DVD 1 of 2’ disk into the DVD drive of the CPE MAS server.
5. Navigate to the ***Install\MISCM*** directory and double-click the ***MMConfigurationWizard.msi*** file.

   The system installs the configuration wizard in the ***C:\Program Files\Avaya Modular Messaging\Install\MISCM*** directory and launches the Modular Messaging configuration wizard.
6. Click **Finish**.

   The system opens the **Modular Messaging DCT Tool** window.
7. On the **Modular Messaging Welcome** screen, click **Next**.

8. On the Locate Configuration Data screen, click **Browse**.
   a. In the Open window, click the drop-down list next to **Look in**.
   b. Navigate to the storage device.

      If the server fails to recognize the storage device, you can:

      1. In the Open window, click **My Computer** in the left pane. After the **Look in** field shows **My Computer**, press **F5** to refresh the screen.
      2. If the system fails to display the storage device, unplug the device and insert the device again.

   c. Double-click the most current DCT data file.
9. On the **Locate Configuration Data** screen, click **Next**.
10. When the system prompts you to confirm the data file, click **Yes**.

    The system opens Avaya Modular Messaging Data Collection Tool window.
11. On each DCT window you must do the following:
    a. Verify the data on each screen and click **Next**.

    Note:

    For more information about completing or verifying the data on each screen, see the DCT online help.

    b. Under **MM servers**, select **Message store**. The system displays the **Message store screen**.
    c. For a customer-provided server, if not already selected, select **Microsoft Exchange with customer's MAS servers**.
    d. Click **Complete** to continue the configuration process.

       The system prompts you to save the file.
    e. You *must* ***Save the file*** even if no changes were made.

    CAUTION:

    The installation does not complete successfully if the DCT file is not saved.

    The system returns you to the Avaya Modular Messaging Configuration Wizard.

    Note:

    Do not click **Cancel**, as this may result in a need for a re-install of the system.
12. On the **Messaging Application Server Number** screen, specify the **MAS number** field to show the correct number for this server.
13. Click **Next**.
14. When the system prompts you to log on, log on to the CPE MAS using the administrator account.

15. When the configuration wizard prompts you to locate the Dialogic installation file, insert the ’Modular Messaging R5.1 MAS Application DVD 1 of 2’ disk.

    Note:

    The configuration wizard prompts you for the Dialogic installation file ***only*** if you install the Dialogic port boards on the CPE MAS.

16. Navigate to the DVD drive and double-click the ***Dialogic_Drivers\MMDialogicInstall.bat*** file. The system opens the Dialogic driver installation wizard.
    a. Click **Next** and accept the licence agreement.
    b. Click **Next**. Repeat this step until the system displays the **Choose Destination Location** screen.
    c. Click **Browse**.
    d. On the **Choose Folder** screen in the **Path:** field, change the drive letter to match the drive where Modular Messaging is being installed. This drive is set in the DCT file. Do not browse to find the new location. The path will read ***<drive letter>:\Program Files\ Dialogic***.
    e. Click **Next** and continue to accept default values to complete the wizard.
17. The system launches the **Found New Hardware Wizard**. Complete the wizard to install the Dialogic driver software.
    a. When the system prompts you to use Windows update, select **No, not at this time** and click **Next**.
    b. When the system prompts you to choose the software, select **Install the software automatically** and click **Next**.
    c. When the **Security Alert - Driver Installation** window opens, select **Yes** to install the driver.
    d. Click **Finish**.
    e. Repeat steps f to k for each Dialogic board on this MAS.
    f. When the system prompts you, In the **Setup Complete** dialog box, select **No, I will restart my computer later**, and click **Finish**.
18. On the **Remote Shutdown** dialog, click **Cancel**.
19. When the configuration wizard prompts you to locate the ***InstallRSEngine.bat*** file, insert the ’Modular Messaging R5.1 MAS Application DVD 2 of 2’ disk.
20. When you receive the error message that the **<drive>:\Realspeak** location is not available:
    a. Click **OK** to close the dialog box.
    b. In the **Look In** field, click **Browse** to choose the DVD drive and double-click the **Realspeak** directory.
    c. Double click on the **realspeakengine.bat** file.

    The **RealSpeak 4.0 InstallShield** wizard starts.

21. If you are installing Modular Messaging to the default C: drive, complete the wizard by accepting all default values. If you are installing Modular Messaging to an alternate drive, complete the following steps:
    a. Move through the RealSpeak installation wizard accepting defaults until you see the **Custom Setup** screen.
    b. On the **Custom Setup** screen, highlight RealSpeak Common Components. Click the arrow next to **RealSpeak Common Components** and select **This feature and all subfeatures will be installed on local hard drive**. Click **Change**.
    c. On the **Change Current Destination Folder** screen, in the **Folder name:** field change the letter of the drive to match the drive where Modular Messaging is being installed. This drive is set in the DCT data file. Do not browse to find the new location. The path will read ***<drive letter>*:\Program Files\ScanSoft\RealSpeak 4.0**.
    d. Click **OK** and continue to accept default values to complete the wizard.
22. After the RealSpeak engine is installed, at the prompt to reboot the system, choose to reboot.
23. After the system reboots, log on using the customer account, for example *mmacct*. The RealSpeak languages install.
24. Click **Next**.
25. Complete the tasks outlined in Installing third-party software on page 68.

Installing third-party software

To install third party software, perform the following:

- If you are installing third-party software from a mapped network drive, update Windows Internet Explorer 7 security. See Updating Windows Internet Explorer 7 security on page 68.
- For Exchange 2007, see Installing third-party software for Exchange 2007 on page 69
- For Exchange 2003, see Installing third-party software for Exchange 2003 on page 70

Updating Windows Internet Explorer 7 security

If you are installing third-party software from a mapped network drive, complete the following steps to update Internet Explorer 7 security. If you do not make this update and you use a domain account to install third-party software, Windows will not allow the installation. This procedure is not necessary if you are installing third-party software from a disk or other removable media such as a USB storage device.

1. Map to the network drive where the third-party software resides.
2. Launch Windows Internet Explorer 7.

3. If a window appears that states Windows Internet Explorer Enhanced Security is enabled: click **OK**.
4. From the browser, select **Tools > Internet Options**.
5. On the **Internet Options** window, select the **Security** tab.
6. In the **Select a zone to view or change security settings** box, click **Local intranet**.
7. Click **Sites**.
8. On the **Local intranet** window, in the **Add this website to the zone** field, type the universal naming convention (UNC) path of your mapped network drive, using the format: \\<***computername***>\<***share***>. Click **Add**.
9. Click **OK** to close the Local intranet and Internet Options windows.

Installing third-party software for Exchange 2007

Use the procedures in this section to install third-party software when installing Modular Messaging with an Exchange 2007 peer mail server.

When prompted to install third-party software:

1. Install the MAPI client by double-clicking the MAPI executable file.
2. Install Microsoft Exchange 2007 Management Tools:
   a. Double-click the tools executable file.
   b. Double-click the extracted Microsoft Exchange Installation wizard.
   c. Complete the Microsoft Exchange Installation Wizard selecting **Custom Exchange Server Installation**. Elect to install the **Management Tools**. For details about this procedure, see the Microsoft Exchange documentation.

   You may be prompted to download and install additional components and hotfixes. Follow the installation prompts. Be sure to download the Windows 2003 32-bit version of each component.
3. If prompted, reboot the system.
4. Verify that the Exchange Management Tools can communicate with the Exchange 2007 mail server.
5. Follow site-specific procedures to install Microsoft Exchange Server 2007 Service Pack 1.
6. Install antivirus software.see Administering anti-virus software on page 48.
7. After installing third-party software, continue with Completing the MMCW configuration on page 70.

Installing third-party software for Exchange 2003

When prompted to install third-party software:

1. Insert the customer-provided Microsoft Exchange Server media in the MAS drive.
2. Install the management tools by completing the Microsoft Exchange Installation Wizard.
3. If you receive a compatibility warning, click **Continue**.
4. For details about this procedure, see the Microsoft Exchange documentation.
5. Install Microsoft Exchange Service Pack 2 and additional software downloads.
6. Installing anti-virus software. See Administering anti-virus software on page 48.

Completing the MMCW configuration

After third-party software is installed, continue with the following steps to complete the configuration:

1. Click **Continue.**
2. Verify that the *Avaya Modular Messaging Messaging Application Server Software* media (disk 1) in the MAS DVD drive. Click **Continue with installation after installing 3rd-party software** on the 3rd-party dialog box. The MMCW resumes with the following sequence of events:
   - The **Setup** screen displays, followed by the **System Upgrade** screen.
   - The system reboots without user intervention.
   - MMCW restarts automatically and runs the MM Application Setup, installing all MM services.
3. After another reboot and auto log on, the MMCW continues the system configuration, displaying informational messages, as each component, such as dialogic drivers or remote access is configured.
4. When MAS configuration is complete, the progress bar stretches across the window and the Next button becomes active. Click **Next**.
5. On the **Modular Messaging Wizard Completed** screen, click **Finish**.
6. To complete setup of the Modular Messaging server, proceed to Completing the CPE MAS configuration on page 71.

Completing the CPE MAS configuration

Perform the following tasks to complete the configuration of the CPE MAS:

- Installing software updates on page 71
- Verify default LAN name and Power Management settings on page 71
- Entering the RAS IP addresses on CPE MAS on page 72
- Setting logging location on page 74
- Configuring port boards on page 75
- Continuing the installation on page 76

Installing software updates

A new Modular Messaging system ships with the most current software that is available at the time. However, the software must be updated after an installation or upgrade to include the latest changes. The updates might be in the form of an Avaya Service Pack (SP) or a software patch (hot fix).

To determine if a Modular Messaging software update is needed:

1. Locate any relevant Avaya software updates on the Avaya Support Web site at http://www.avaya.com/support. For complete steps, see Obtaining software updates from the Web on page 307.

   Note:

   If you followed the procedure for Downloading software updates on page 4, you already downloaded any required software updates.

2. If the Modular Messaging system requires a software update, complete the update procedure now before you do acceptance testing. Follow the instructions in Appendix F: Updating Modular Messaging software on page 307 to update the system with the latest changes.

Verify default LAN name and Power Management settings

Rename the corporate LAN connection for this MAS so that it is easier to identify. To rename the LAN entry:

1. . Click **Start > Settings > Network Connections**.

   The **Network Connections** window opens.

2. Identify the corporate LAN on this server. The corporate LAN is labelled **Local Area Connection**.

   Rename this item as follows:

   a. Right-click the text **Local Area Connection** and select **Rename**.

   b. Change the name to **Corporate LAN**.

3. Change the Power Management settings for the LAN connection:

   a. Right-click the LAN connection and select **Properties**.

   b. Click **Configure**.

   c. Click the **Power Management** tab.

   d. Deselect the **Allow the computer to turn off this device to save power** checkbox.

4. Close any LAN-connection windows.

Entering the RAS IP addresses on CPE MAS

Remote access allows technical support staff to dial into a system to correct problems and perform routine maintenance. You must provide a method for remote services to access the system. Follow site-specific requirements to set up remote access or complete the following procedure.

The Avaya Modular Messaging Configuration Wizard automatically sets up inbound remote access to each MAS modem. You must edit the preprogrammed RAS IP addresses to use the correct addresses that the technical support organization requires.

CAUTION:

If Avaya is to support this system, you must enter the RAS IP addresses assigned by the Avaya Automatic Registration Tool (ART). Otherwise remote access for Avaya technical support will not work.

To set up IP addresses on each MAS to allow remote access:

1. Double-click the **Configure** icon on the desktop.
2. In the left pane, expand **Routing and Remote Access**.
3. Expand the server name.
4. Verify authentication:

   a. Highlight **Remote Access Policies**.

   b. From the right pane, double-click **Connections to Microsoft routing and remote access**.

   c. Click the **Edit Profile..** button.

   d. Select the **Authentication** tab.

e. Verify that all check boxes (except for the **Unauthenticated access** check box) are selected. If necessary, clear the **Unauthenticated access** check box.

f. Click **OK**.

g. If a dialog box appears, click **No**.

h. Click **OK** again.

5. Right-click the server name from the pop-up menu and select **Properties**.
6. Set up PAP security:
   a. In the **Local Properties** window, click the **Security** tab.
   b. Click **Authentication Methods...**
   c. Select **Unencrypted Password (PAP)**.
   d. Verify that all other check boxes are blank. If necessary, clear the check boxes.
   e. Click **OK**.
7. Set up a static IP address pool as follows:
   a. In the **Local Properties** window, click the **IP** tab.
   b. Under **IP address assignment**, select **Static address pool**.
   c. Add or edit the address range as follows:
      - If the window shows an incorrect IP address range, select the displayed range and click **Edit**.

      CAUTION:
      If Avaya will support this server, do not use the preprogrammed IP addresses. You must Edit and Remove these addresses for remote access to work.

      - If no address range is already entered, click **Add**.

   d. In the **Address Range** window, enter the correct start and end IP addresses for this server.
   e. Verify that the number of addresses is **2**.
   f. Click **OK**.
   g. For the **Adapter** field, select **Allow RAS to select adapter**.
   h. Click **OK** to close the properties window.
   i. If a dialog box appears, click **No**.
   j. Close the **Configure** window.

Setting logging location

CAUTION:

You must have adequate space on the drive where your logs are located. If you do not, your system may fail to operate correctly. Check the location where your system is recording logs to be sure you don't overrun your allotted space.

You may want to change the default location for recording logs if you do not have adequate space on the default C: drive location. Likewise, if you installed Modular Messaging to a drive other than the default C: drive, the logging location is not automatically changed. In this case you may want to change the location for recording logs to the same drive as the software installation.

To change the location for recording logs, complete the following steps:

1. Navigate to the following location on the drive where Modular Messaging was installed: ***<drive letter>*:\Avaya_Support\Tools**
2. Double-click the **MM_Logging.exe** file.

   The Modular Messaging **Verbose Logging** Window opens.
3. Complete the following steps for each type of log displayed at the top of the screen with the exception of the **Client**.
   a. Click the log-type button.
   b. In the **Folder for Log Files:** field, edit the drive letter to the drive where you want logs stored. If you have installed Modular Messaging to an alternate drive, edit the field to show the drive where Modular Messaging was installed.
   c. Click **Apply** at the bottom of the screen.
4. When the log location has been changed for all log types, click **Close** at the bottom of the screen.

The MM Debug Log Viewer should be set up to open log files automatically after installation. If for some reason this association is not made or it becomes changed, do the following manual setup.

To manually set up MM Debug Log Viewer:

1. From the desktop, open **My Documents** (or any Windows Explorer window).
2. Click **Tools > Folder Options > File Types**.
3. Is LOG4 listed in the extensions list?
   - If YES, skip to step 7.
   - If NO, continue with step 4.
4. Click **New**.
5. In the **Create New Extension** box, type **log4**. Click **OK**.

6. In the extensions list, at the top, highlight **LOG4**. Click **Change**.
7. Click **Select the program from a list**.
8. In the **Open With** window, highlight **MM Debug Log Viewer**. If that selection is not present, click **Browse** and navigate to and select C:\AVAYA_Support\Tools\LogViewer\MMLogViewer.exe.
9. Click **OK**.
10. Close all windows.

Configuring port boards

The Avaya Modular Messaging Configuration Wizard automatically configures some integrations. The switch integrations may or may not have Dialogic port boards.

Switch integrations without Dialogic port boards

The Avaya Modular Messaging Configuration Wizard automatically configures the following switch integrations, which **DO NOT** have Dialogic port boards:

- Avaya CM (IP SIP)
- Avaya (IP H323)

Switch integrations with Dialogic port boards

Important:
If this MAS does not contain Dialogic port boards, skip the rest of this section and continue with Chapter 6: Configuring the voice mail system on page 77.

The Avaya Modular Messaging Configuration Wizard automatically configures the following switch integrations, which **DO** have Dialogic port boards:

- Avaya (QSIG)
- Cisco (QSIG)
- Nortel NT M-1 (QSIG)
- Siemens Hipath (QSIG)

If this MAS does *not* use one of the automatic-configuration switch integrations, you must configure the Dialogic port boards manually.

1. Continue with Appendix E: Configuring and testing port boards on page 293.
2. After you configure and test the Dialogic port boards, continue with Chapter 6: Configuring the voice mail system on page 77.

Continuing the installation

When you have finished installing the MAS, you must continue with configuring the voice mail system. See Configuring the voice mail system on page 77.

Chapter 6: Configuring the voice mail system

This chapter describes how to configure the basic Voice Mail System Configuration (VMSC) parameters and complete initial Modular Messaging software administration.

Note:

Before you can successfully complete the tasks described in this section, you must have completed the tasks in Chapter 4: Configuring an Avaya MAS on page 39, Chapter 5: Configuring a customer-provided MAS on page 55. You also need to complete the tasks in Chapter 8: Upgrading Modular Messaging software on an Avaya MAS on page 119 or Migrating to Modular Messaging Release 5.1 on an Avaya MAS on page 163. Additionally, if port boards are installed on the MAS and they are not automatically configured by the Modular Messaging Configuration Wizard (MMCW) you must complete the tasks in Appendix E: Configuring and testing port boards on page 293 before configuring the voice mail system. See When to configure port boards on page 293 for a list of automatically configured integrations.

Configuring the voice mail system

Voice mail system can be classified, as follows:

1. Domain-wide administration that must be done once for each new installation. You usually do these procedures on MAS#1, although you can adjust them later if needed.
2. Administration of domain-wide features that can be installed on any MAS, such as Call Me or Message Waiting Indicator (MWI).
3. Configuration information specific to each MAS, such as INADS alarming or port board administration.

This section describes how to configure key parameters to make the new system operational. Complete the tasks in this section to get the Modular Messaging system up and running with the basic required features. After the installation is complete, Avaya encourages customers to tailor the Voice Mail System Configuration (VMSC) parameters for their site. For more information, see the *Avaya Modular Messaging MAS Administration Guide*.

CAUTION:

You can complete some procedures in this section only if you use the required configuration notes for a specific PBX. For instructions to obtain the configuration notes, see Downloading configuration notes on page 4.

Topics in this chapter include:

- Configuring required domain-wide features on page 78
- Verifying license installation and specifying TTS sessions on page 87
- Entering Product ID for current MAS on page 88
- Configuring specific features as needed on page 88
- Configuring MAS-specific parameters on page 94
- Restarting messaging services on page 98
- Verifying basic operation of this MAS on page 99
- Continuing the installation on page 102

Configuring required domain-wide features

This section describes how to configure domain-wide features that are required for each Modular Messaging system. Required features are:

- Specifying languages on page 79
- Verifying that Modular Messaging service has started on MAS#1 on page 79
- Configuring TUI and access settings on page 80
- Configuring the broadcast mailbox on page 81
- Configuring the PBX type on page 83
- Configuring serviceability settings on page 83
- Obtaining and installing a license on MAS#1 on page 85

For a new installation, do these procedures on the first MAS that is installed to ensure the configuration of all required system features.

For information on MultiSite concepts and requirements, see *Modular Messaging MultiSite Guide*. For MultiSite specific configuration, see the **Voice Mail System Configuration** section in *Avaya Modular Messaging MAS Administration Guide*.

Specifying languages

Important:

If you change the language settings of the Modular Messaging system, the change only affects the display language for applications and tools on the Modular Messaging system, and does not impact TUI prompting languages. To configure the TUI languages, see *Avaya Modular Messaging MAS Administration Guide*. If you change the language of the Modular Messaging system, be sure to also change the language settings for Windows. (See Windows documentation for this information).

Specify the preferred language for this MAS if the Windows operating system is set to a non-English language:

1. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Languages**.
2. In the **Modular Messaging User Properties** window, select the **Preferred language** from the drop-down list.
3. Click **OK** to close this window.

Verifying that Modular Messaging service has started on MAS#1

Verify if Modular Messaging service has started before you configure the voice mail system.

1. Right-click **My Computer** and select **Manage**. In the **Computer Management** window, the left (Tree) pane, expand **Services and Applications**.
2. Click **Services (Local)** in the left pane, if the item is not already selected.
3. In the right pane, scroll down to **MM Messaging Application Server**.
4. Check the **Status** column, if the status is **Started**, close the **Monitor** window and proceed with the steps in Configuring TUI and access settings on page 80.
5. If the Modular Messaging service has *not* started, right-click **MM Messaging Application Server** and select **Start**.

   The system starts the messaging service. When you restart the messaging service, the **Monitor** window immediately displays status as **Started**. However, the service might actually take several minutes to start. The time taken to start the service depends on the number of port boards installed and the integration method used.
6. Expand the **Event Viewer (Local)** in the left pane to track the progress in startup. Click **Application**.
7. Refresh the **Monitor** window until you see Telephony User Interface event 1241, **TUI service has been enabled**.
8. Verify if MM Service Connector service has also started. If the Service Connector has not started, right-click **MM Service Connector** and select **Start**
9. Minimize the **Monitor** window. You will use it later.

Configuring TUI and access settings

You must configure the settings in this section once for each Modular Messaging system (VMD).

1. Click **Start > Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration**.

   The **Voice Mail System Configuration** window opens. All MASs present in the messaging system are listed under the voice mail domain.

   Note:

   Do the steps in this section for entries under the voice mail domain, such as *vmdom*. Do *not* click the similar entries for a specific MAS under **Message Application Servers** at this time.

2. Under the voice mail domain name, double-click **Telephone User Interface**.

   a. On the **General** tab, set **Number of Digits in a Mailbox** to match the number of digits in the extension numbers on the customer PBX. If MultiSite is enabled, the Number of Digits in a Mailbox field is unavailable.

   b. Click the **Class of Service** tab.

   c. Set up classes of service (COS) for subscribers as follows.

      1. Select the **COS Number**.
      2. Update the **COS Name** to reflect this type of telephone user interface (such as *Aria TUI*, *AUDIX TUI,* or *Serenade TUI*).
      3. Select any required features for this COS and TUI.
      4. Select the appropriate **TUI type** for this COS (*Aria, AUDIX, or Serenade*).
      5. Repeat Steps 1 through 4 to set up multiple COSs. Create at least one class of service for each TUI that will be used at this site.

   Note:

   To set up a mixed environment of Aria, AUDIX, and Serenade TUIs, assign the appropriate TUI to each COS.

   d. When finished, click **OK**.

   e. If the system notifies you that the extension number changes will invalidate all previous mailboxes, click **Yes** to continue.

3. In the Voice Mail System Configuration window, double-click **Audio Encoding**.

   a. In the **Audio Encoding** window, change the **Default Audio Encoding Format** to:

   - **G.711 µ-Law** (mu-Law) for the United State and Japan
   - **G.711 A-Law** for most other countries, especially those in Europe

Note:

The default Microsoft GSM encoding produces smaller files but poorer voice quality. Update the audio encoding to provide better sound quality, especially for IP SIP integrations. G.711 encoding is required to support TTY/TDD devices.

b. Click **OK**.

c. If you changed the audio encoding, a restart box appears. Click **OK**, but you do not have to restart now.

Note:

Although the system prompts you to restart MM Messaging Application Server service several times during this procedure, you actually must restart MM Messaging Application Server service only as directed in this guide. You must restart MM Messaging Application Server service before entering the port board extension numbers in Configuring MAS-specific parameters on page 94. You restart MM Messaging Application Server service again at the end, when configuration is complete.

Configuring the broadcast mailbox

Complete the procedure that applies to your system:

- Configuring the broadcast mailbox with a Microsoft Exchange 2007 System on page 81
- Configuring the broadcast mailbox with a Microsoft Exchange 2003 System on page 82

Configuring the broadcast mailbox with a Microsoft Exchange 2007 System

Complete the following steps to assign a numeric address to the broadcast mailbox. Enter the numeric address you will use to send a message to a broadcast list.

1. Click **Start** > **All Programs** > **Microsoft Exchange Server 2007** > **Exchange Management Console**.
2. In the left panel, select **Recipient Configuration** > **Distribution Group**.
3. In the center panel, right-click the **BDL** group and select **Properties**.
4. In the **Properties** window, select the **E-Mail Addresses** tab.
5. **Add** a **Custom Address**.
6. In the **Custom Address** window in the **E-mail address** field, type the numeric address for the broadcast mailbox. In the **E-mail type** field, type **NUMERIC**.
7. Click **OK** to return to the **Properties** window.

Complete the following steps to restrict access to the broadcast mailbox. Enter the users with permission to send messages to the broadcast list:

1. In the **Properties** window, select the **Mail Flow Settings** tab.
2. Highlight **Message Delivery Restrictions** and click **Properties**.

3. In the **Accept messages from** field, select **Only senders in the following list**.
4. Click **Add** and select the users to the broadcast list. You would be able to send messages to these users when required.
5. Click **OK** to return to the **Properties** window.

By default broadcast lists are not displayed in the Exchange address list. Optionally, complete the following steps to show the broadcast lists in the Exchange address list.

1. In the **Properties** window, select the **Advanced** tab.
2. Clear the **Hide group from Exchange address lists** box and click **OK**.

Configuring the broadcast mailbox with a Microsoft Exchange 2003 System

Complete the following steps to assign a numeric address to the broadcast mailbox. Enter the numeric address you will use to send a message to a broadcast list.

Note:

You must complete this procedure on a machine where you have installed the Modular Messaging Active Directory extensions. For information about installing the Modular Messaging extensions, see Adding the Exchange extensions on page 35.

1. Click **Start** > **Programs** > **Microsoft Exchange** > **Active Directory Users and Computers**.
2. In the **Active Directory Users and Computers** window, highlight the Windows domain used for Modular Messaging.
3. Select **View** and then select **Advanced Features**.
4. In the right-hand pane, double-click **Octel**.
5. In the right-hand pane, double-click the **BDL** group.
6. Select the **Modular Messaging** tab.
7. Type the numeric address for the broadcast mailbox.
8. Click **OK** to close the window.

Complete the following steps to restrict access to the broadcast mailbox. Enter the users with permission to send messages to the broadcast list:

1. In the **Properties window,** select the **Exchange General** tab.
2. In the **Message Restrictions** field, select **Only from**.
3. **Add** the users you want to be able to send messages to the broadcast list.
4. When finished adding users, click **OK** to close the window.

Configuring the PBX type

You must configure the PBX service settings for each Modular Messaging system using the appropriate configuration notes for the type of PBX or switch integration you use. Obtain the configuration notes as instructed in Downloading configuration notes on page 4. For a new installation, do this procedure on MAS#1.

Use the following steps to configure the switch integration in the **Voice Mail System Configuration** window:

1. In the **Voice Mail System Configuration** window, expand the **PBXs** item under the voice mail domain, such as *vmdom*.
2. The Modular Messaging Configuration Wizard automatically configures many settings for the certain switch integrations. Proceed as appropriate:
   - If you are using one of the automatically configured switch types, the appropriate entry is already listed under **PBXs**. Continue with Step 5.
   - If no PBX type is listed, continue with Step 3.
3. Right-click **PBXs** and select **Add New PBX Type**.
   a. For **Telephony Type**, select the type of port board that is installed in this MAS, such as *Dialogic Set Emulation*.
   b. In the PBXs list box, select the type of switch integration that you have, such as *Avaya G3 Set Emulation*.
   c. Click **OK** to close this window.
4. In the **Voice Mail System Configuration** window, expand **PBXs**.
5. Double-click the PBX entry under **PBXs**.
6. Using the configuration notes for this PBX or switch, set up the specific PBX parameters required for this integration of the system.

Configuring serviceability settings

You must set up domain wide serviceability (alarming) settings once for each Modular Messaging system.

For a new installation, perform these procedures on MAS#1.

To set up serviceability settings for the system:

1. In the **Voice Mail System Configuration (VMSC)** window, double-click **Serviceability**.
2. In the **Serviceability - Voice Mail Domain** window:
   a. On the **General** tab, select the type of alarming to be used for the Modular Messaging system:
      - Inactive — No alarm notification sent

- SNMP — Send alarm traps to an NMS using SNMP
- INADS — Use the INADS to send alarm notifications to an alarm collection server for analysis and corrective action
- Internet (Default for new installations) — Relay alarm information through the internet capabilities of the Avaya SPIRIT Agent.

Note:

The MAS must have a modem for you to select INADS alarming.

b. If alarming is activated, enter the unique MAS product ID for this system.

Note:

If Avaya is to support this system, you must enter the product ID that the Avaya Automatic Registration Tool (ART) provides.

c. Unless directed otherwise, you can accept the default values for the following parameters:

- The conditions for sending an alarm notification
- The alarm level at which notification is to be sent: minor or major
- The system behavior for stopping Modular Messaging service

d. *If you selected SNMP alarming,* click the **SNMP Trap Destinations** tab. Complete the following fields:

Note:

For an upgrade, specify the SNMP trap destination and community details that you recorded from the R1.1, R3.0 or R3.1 system in the **SNMP Trap Destinations** tab.

- **IP Address/Host** — Enter the IP address or host name of the trap destination. Type either the IP address or the fully qualified domain name for the NMS in the field. Alternatively, click **Browse** to navigate to and select the correct NMS.
- **Community** — Select a community name. The name is used as security validation in communication between the SNMP client and the SNMP server.
- **Type** — Select the type of trap destination.
- **Port** — Enter the port number.

  For additional information about completing the Serviceability General and SNMP Trap Destination information, see the VMSC — Serviceability topic in the Avaya Modular Messaging documentation.

e. *If you selected SNMP alarming,* complete the following steps to start SNMP service:

1. Right-click **My Computer** and select **Manage**. In the **Computer Management** window, the left (Tree) pane, expand **Services and Applications**.
2. Click **Services (Local)** in the left pane, if the item is not already selected.

3. In the right pane, scroll down to **SNMP Trap Service**. Double-click it to open the **Properties** window.
4. On the **General** tab, set the **Startup type** to **Automatic**.
5. Click **Apply**.
6. Under **Service status**, click **Start**.
7. Wait for service to start, and then click **OK**.
8. Minimize the **Monitor** window for later use.

f. *If you selected Internet alarming,* click the **Internet Proxies** tab. Complete the following fields:

- **Primary Address** — Enter the Avaya proxy primary IP address or fully qualified domain name (FQDN).
- **Secondary Address** — Enter the Avaya proxy secondary IP address or FQDN.
- **Enable HTTP/HTPPS proxies** — Click to enable customer internet proxies.
- **Primary HTTP/HTTPS Address** — Enter the customer proxy primary IP address or FQDN
- **Secondary HTTP/HTTPS Address** — Enter the customer proxy secondary IP address or FQDN

  For additional information about completing the Serviceability Internet Proxies information, see the VMSC — Serviceability topic in the Avaya Modular Messaging documentation.

g. Click **OK** to close the **Serviceability - Voice Mail Domain** window.

Obtaining and installing a license on MAS#1

You must obtain and install a license for each Modular Messaging system. Do this procedure on MAS#1.

Note:

You must use Remote Feature Activation (RFA) to obtain a license for all new systems. For the latest information, go to the http://rfa.avaya.com Web site. For complete licensing steps and contact information for RFA assistance, see *Getting Started with RFA for Modular Messaging* on the RFA Web site.

If the Modular Messaging system is being implemented with an Communication Manager server, and if a T1-QSIG, E1-QSIG, or IP H.323 switch integration is used, the person who requests the Modular Messaging RFA license must also request the QSIG Supplementary Services package. The QSIG Supplementary Services package is an entitlement captured within the Communication Manager RFA license. It must be set to **ON** and uploaded to the Communication Manager server, separate from the Modular Messaging RFA License. Contact your Avaya representative for more information.

Obtaining the license

To obtain and install a license for this system.

1. A registered RFA user must generate a license request for the new system using RFA. The request must include all the required information described in *Getting Started with RFA for Modular Messaging*. The procedure varies per location. However, the on-site installer *must* provide the voice mail domain identifier (VMD ID) to complete a license request.
2. Obtain the unique VMD ID that identifies this particular system to complete a license request. To obtain the VMD ID:
   a. In the **Voice Mail System Configuration** window, right-click **Licensing** and select **Copy Host ID to clipboard**.
   b. Open a text-editor application such as Notepad to record this information.

   CAUTION:

   Use the copy-and-paste method of recording the VMD ID if possible. If you manually enter the VMD ID, there is a possibility that you make mistakes. The VMD ID in the generated license *must* exactly match that of the target system, or the license fails to install.

   c. Right-click and select **Paste** to copy the VMD ID from the clipboard to the document.
   d. Save the file. For example, save the file into **My Documents** as *mymas1-vmdid.txt*.
   e. Send the file that contains the VMD ID to a location that can access the Internet or e-mail location. Use any method that is required, such as FTP, memory stick, and so on. Send the file to the RFA-authorized party, or use the file yourself to complete the RFA license request through the RFA Web site. Procedures vary according to location.
3. The authorized person completes the license request using RFA. The person then downloads or sends the license file by e-mail to the appropriate location.

4. If another party must complete the license request, you can continue with the installation until you receive a valid license file. At that time, return to Installing the license on page 87.

CAUTION:

For most switch integrations, you can continue the installation through acceptance testing using a dummy license that supports up to ten subscribers. For IP SIP integrations, however, you *must* receive and install a valid license before you can add any test subscribers and do acceptance testing.

Installing the license

After you obtain the license file, install the license as follows:

1. Copy the license file, such as *wlmNNNNNlicense.xml*, to the MAS using the method preferred by the customer, such as FTP, memory stick, and so on. Avaya recommends to copy the license file on MAS#1 in the C:\Avaya_Support directory.
2. To install the license, in the **Voice Mail System Configuration** window, right-click **Licensing** and select **Import License**.
3. On the **License Import Wizard welcome** screen, click **Next**.
4. On the **Importing the license** screen, click **Browse**.
5. Navigate to where the license file is stored, such as *C:\Avaya_Support*.
6. Double-click the appropriate **.xml* license file. If more than one file is present, verify that you select the correct one.
7. Click **Next** to install the license.
8. When the procedure is complete, click **Finish**.

CAUTION:

If an error message states that the license is not valid, you must obtain a new license file. The event log on the MAS on which the license import failed might contain additional information about the failure reason. Verify that the license request contains the correct VMD ID for this system. Return to Step 2 and submit a new license request through RFA.

9. Continue with Verifying license installation and specifying TTS sessions on page 87.

Verifying license installation and specifying TTS sessions

Release 5.1 does not support the following TTS engines: DecTalk and TTS3000. If you were using either of these TTS engines, a Release 5.1 upgrade automatically removes them and installs the ScanSoft RealSpeak TTS engine. However, you must obtain new licenses for the RealSpeak TTS engines, or the TTS sessions will fail. For more information about obtaining licenses, see Obtaining and installing a license on MAS#1 on page 85.

After you install the license file, verify the license values and set up the TTS sessions on the MAS you are configuring:

1. In the Voice Mail System Configuration window, double-click **Licensing**.
2. In the Licensing - Voice Mail Domain window, on the **General** tab, verify that the system displays the correct values as per the license agreement.
3. Click the **Text-to-Speech** tab.
   a. For the current MAS, double-click the TTS engine to set up, such as **Text to speech, ScanSoft RealSpeak, Any Language**.
   b. In the **Edit Sessions** window, enter 12 sessions for the MAS if it handles calls.
   c. Click **OK**.
   d. Repeat this step for each licensed TTS engine.
4. Click **OK** to close the Licensing - Voice Mail Domain window.
5. After you complete the licensing procedure, you must restart service for the changes to take effect. For this procedure, see Restarting messaging services on page 98.

Entering Product ID for current MAS

If Avaya is to support this system, you must enter the MAS product ID that ART (Automatic Registration Tool) provides. You can view the product IDs using Maestro.

1. From the VMSC (**Start** > **Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration**), double-click **Message Application Servers**.
2. Double-click the MAS you are currently configuring and select **Serviceability**.
3. On the **Serviceability** window, type the product ID for the MAS in the **Product Identifier** field.
4. Click **OK**.

Configuring specific features as needed

During installation, MMCW enables services and TTS languages specified in the DCT data file. However, you need to configure features such as Call Me, MWI, Fax, and Offline message store after the installation. Use the procedures in this section to manually configure the other features and TTS, if necessary. Unless otherwise specified, you can configure these features on any MAS in the VMD.

Note:

The following are important notes about configuring these features:

- You must have the relevant permissions to configure screens in the VMSC application. For more information about security roles required for VMSC configuration, see *Avaya Modular Messaging MAS Administration Guide*.
- If any of these features is enabled improperly or on the wrong server by the MMCW, manually configure the affected feature. For more information on moving the services to another server, see Moving Modular Messaging services among servers on page 247.
- If you are enabling the MultiSite feature, see *Avaya Modular Messaging MultiSite Feature Description Guide* to configure the MultiSite specific features. For information on MultiSite specific configuration, see the **Voice Mail System Configuration** section in *Avaya Modular Messaging MAS Administration Guide*.

To configure specific features for the VMD:

1. Use the Voice Mail System Configuration program.

   If this window is not already open, click **Start** > **Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration**.

2. After all MASs in the system have been installed, configure the features that are required for the VMD.

   - Configuring Call Me service on page 89
   - Configuring Notify Me on page 90
   - Configuring MWI service on page 90
   - Configuring languages and multi-lingual TTS on page 90
   - Configuring Audit Service on page 91
   - Configuring the MM Fax Sender server on page 91
   - Configuring offline access to messages on page 94

Configuring Call Me service

Complete the following steps to configure Call Me Service for the VMD:

1. Under the voice mail domain, double-click **Call Me**.
2. On the **General** tab, click the checkbox to **Enable Call Me**.
3. For **MAS Call Me server**, enter the name of the MAS or supplementary server on which the MM Call Me Server service is installed. You can use the browse button (...) to locate the server.
4. Click **OK**.

   Note:

   Because the Call Me server and Message Waiting Indicator (MWI) Server both use the Mailbox Monitor Server, they must be installed on the same server.

Configuring Notify Me

Complete the following steps to configure Notify Me for the VMD:

1. Under the voice mail domain, double-click **Notify Me**.
2. On the **General** tab, click the **Enable Notify Me** checkbox.
3. Click **OK**.

Configuring MWI service

Complete the following steps to configure MWI service for the VMD:

1. Under the voice mail domain, double-click **Message Waiting Indicator**.
2. On the **General** tab, click the checkbox to **Enable Message Waiting Indicator (MWI)**.
3. For **MAS MWI server**, enter the name of the MAS or supplementary server on which the MM Message Waiting Indicator Server service will be running. You can use the browse button (...) to locate the server.
4. For the **Limit requests** and **Maximum requests per minute** fields, use the values specified in the configuration notes for your PBX integration type.
5. In the **Messaging Application Servers that support MWI** box, list all MASs that have a port group set up to support MWI. To add a server name:
   a. Double-click inside the top of the big list box, or click the **Add** button just above the list box. The **Add** button looks like a dashed box.
   b. The list box displays a data entry field and a **...** button. Click the **...** button.
   c. In the **Select Computer** window, double-click the name of each MAS that has ports allocated to support MWI.
   d. Repeat Steps b and c to add any other MASs that support MWI, such as *MYMAS2*.
   e. Click **OK** to close this window.

      The arrow icons move the selected MAS up or down the list. MWI requests start with the first MAS in the list, and continue to each additional MAS if needed.
6. Click **OK** to close the **Message Waiting Indicator - Voice Mail Domain** window.

Configuring languages and multi-lingual TTS

To configure multiple languages or the optional Text-to-Speech (TTS) feature:

Note:

Enable Multi-Lingual TTS only if it is required at the site.

1. In the **Voice Mail System Configuration** window, under the VMD, such as *vmdom*, double-click **Languages**.

2. In the **Languages - Voice Mail Domain** window:
   a. For **Primary Language**, select the primary announcement language (prompt set) that is to be used at this site.
   b. *If the Multi-Lingual Text-to-Speech (TTS) feature is required at this site:*
      1. Click the **Enable Multilingual Text-to-Speech** check box.
      2. In the list box, select all the languages to use for TTS at this site.
3. Click **OK** to close this window.

Configuring Audit Service

Complete the following steps to configure MAS auditing for the VMD.

1. In the **Voice Mail System Configuration** window, under the VMD, double-click **Auditing**.
2. On the **General** tab, click the check box to **Enable Auditing**.
3. In the **Audit server** field, enter the name of the server that will run the MM Audit service, or use the browse button (...) to select the name.

   MM Audit service is installed and running on each MAS and supplementary servers in the VMD. The name that you enter here is the name of the MAS or supplementary server that acts as the MM Audit Server.
4. In the **Audit event retention (days)** field, enter the number of days before events are purged from the audit database.
5. In the **Database server** field, enter the name of the server where the database resides or use the browse button (...) to select the server.
6. In the **Database name** field, enter the name of the Audit Server SQL database.
7. In the **Database instance** field, enter the name of the Audit Server SQLDatabase instance containing audit events.
8. Click **OK** to close this window.

Audit service can be configured to use the syslog protocol to allow third-party system administration tools to be used with Modular Messaging. For more information, see *Avaya Modular Messaging MAS Administration Guide*.

Configuring the MM Fax Sender server

These steps describe how to configure Avaya's native fax support. When configuring third-party fax support, see the appropriate Fax Configuration Note on the Avaya support website. For additional information, see *Avaya Modular Messaging MAS Administration Guide*.

Complete these steps on the MAS in your VMD that is running the Modular Messaging Fax Sender server.

Note:

To configure the **Fax** dialog box in **VMSC**, you must be a member of a security role that is assigned the Fax-Administer task.

To configure MM Fax Sender server:

- Configure the MM Fax sender server in VMSC
- Share the Microsoft Fax Printer
- Assign permissions to the Fax Service Manager
- Create a dialing rule

To configure MM Fax Sender server, complete the following steps:

1. In the **Voice Mail System Configuration** window, under the VMD, double-click **Fax**.
2. On the **General** tab:
   a. Click the check box for **Fax Enable**.
   b. Click the check box to **Use native fax support**.
   c. For **MAS Fax Sender server**, enter the name of the MAS where MM Fax Sender Server service is installed, or **Browse** to locate the server.
   d. **Fax Mailbox** displays the name of the fax mailbox, which is used for outgoing faxes on the Exchange message store server. This field is populated automatically and cannot be edited.
   e. For **Company Fax Number** enter the externally dialable number that callers must use to send faxes to subscribers. This number appears on outgoing fax cover pages.
3. Click the **Advanced** button.
   a. In the Advanced Fax window, change the **Max Concurrent Outgoing Calls** number to the customer-specified number.
   b. Adjust other options if required.
   c. Click **OK** to close this window.
4. Click **OK** to close the **Fax - Voice Mail Domain** window.

   The system displays a "restart" window.
5. Click **OK**.

Complete the following steps to share the Microsoft Fax Printer:

1. Verify that Windows Fax Service is **Started** and set to **Automatic**.
2. Click **Start** > **Settings** > **Printers and Faxes**.
3. In the **Printers and Faxes** window, right-click the Fax and select **Properties**.
4. Click the **Sharing** tab.
5. Select the **Share this printer** check box. Leave the share name as **Fax**.

6. If not already added, add **Everyone** to the list of users and groups with access.
7. Assign **Fax** permission to **Everyone**.

Complete the following steps to assign permissions to the Fax Service Manager:

1. Select the **Configuration** tab.
2. Select **Fax Service Manager**.
3. Right-click **Fax (local)** and select **Properties**.
4. Click the **Security** tab.
5. Add the Network Service Account to the list of users and groups with access
6. Assign **Fax**, **Manage Fax Configuration** and **Manage Fax Documents** permissions to the Network Service Account.
7. Ensure that **Everyone** is assigned **Fax** permissions for the Fax Service Manager.
8. Exit all windows.

Note:

If the System Administrator wants to restrict access to the Fax printer at a later date, complete the following changes to the Fax printer share and Fax Service Manager:

1. Remove **Everyone** from the list of users and groups with access.
2. Add Active Directory users and groups that need to print faxes using the MM Fax Printer to the list of users and groups with access.
3. Assign **Fax** permission to the Active Directory users and groups.

Complete the following steps to create a dialing rule for the Phone and Modem:

1. Click **Start > Settings > Control Panel > Phone and Modem Options**.
2. If a dialing rule is not already created, click **New** on the **Dialing Rules** tab to create a dialing rule.
3. Specify the location details and dialing rules for the MAS.
4. Click **OK** to save the dialing rule and close the **New Location** window.
5. Click **OK**.

Configuring offline access to messages

CAUTION:

Set up offline access only after all servers in the system are configured, including the supplementary server, if present. Before you can configure offline access, you must create the offline message store. For more information, see the *Avaya Modular Messaging MAS Administration Guide*.

To configure offline access to subscriber messages:

1. In the **Voice Mail System Configuration** window, under VMD, such as *vmdom*, double-click **Messaging**.
2. In the **Messaging - Voice Mail Domain** window, click the **Offline Access** tab.
3. Select the **Enable offline access to messages** check box.
4. If this system has multiple MASs:
   a. Select the **Synchronize offline messages with remote store** check box.
   b. Click **Browse** to select an existing, shared directory in the domain for the remote offline message store. If the directory does not exist, create it first, then browse to the directory.

   The name must use the format ***locationname*\s*harename***, such as *mymas2**RemoteOfflineStore*.
5. Change other parameters in this window as needed. For more information, see the *Avaya Modular Messaging MAS Administration Guide*.
6. Click **OK** to close this window.

Configuring MAS-specific parameters

After you configure the domain-wide parameters, complete the configuration of this specific MAS in the VMSC. Do the procedures in this section under the specific entry for this MAS, and not under the voice mail domain.

Complete the tasks in this section on each MAS as required:

- Configuring INADS alarming, if used on page 95
- Configuring port boards and switch integration on page 95

When you configure some MAS-specific parameters, you will need to select the MAS in the Voice Mail System Configuration window. If the MAS you are configuring does not appear in this window, refresh the window.

Configuring INADS alarming, if used

If this MAS uses INADS alarming, configure the service now. You must administer INADS alarming individually for each server and supplementary server that uses INADS alarming. The server requires a modem and the Messaging Application Server service to be installed for INADS alarming to work.

To set up INADS alarming on this MAS:

1. In the **Voice Mail System Configuration** window, expand **Message Application Servers**.
2. Expand the entry for this MAS, such as *MYMAS1*.
3. Double-click **Serviceability**.
4. Click the **INADS** tab.
5. Complete the following fields:
   a. **COM port** — Select the communications port that the modem is to use to make calls for alarm notification. Avaya recommends COM3 for the recommended USB port on the MAS.
   b. **Phone number** — Enter the complete telephone number the modem must dial to place an alarm notification with the remote service center. Include any special characters needed. For example, to access an outside line, insert pauses, and so on.
   c. **Modem setup** — Enter the modem initialization (setup) string required for the modem to make alarm notification calls.

      For additional information about completing the MAS - Serviceability - General and MAS - Serviceability - INADS information, see the VMSC — Serviceability topic in the Avaya Modular Messaging documentation.
6. Click **OK** to close this window.
7. If prompted, restart the MAS service.

Configuring port boards and switch integration

Note:

You must restart service at the end of the previous procedure before continuing.

The Modular Messaging Configuration Wizard automatically configures many of the port board and PBX settings for the MAS. However, you must always verify the configuration settings against the most current configuration notes.

Note:

The configuration notes for this PBX or switch might include some of these steps. However, read through this section first to get an overview of the configuration procedure. You can repeat steps to verify the setup. You can also update or change this information later if required.

Automatic configuration

The Modular Messaging Configuration Wizard automatically configures the MAS settings for the following switch integrations:

- Avaya SIP
- Avaya (IP H323)
- Avaya (QSIG)
- Cisco (QSIG)
- Nortel NT M-1 (QSIG)
- Siemens Hipath (QSIG)

If you are using one of these switch types:

1. Verify the MAS settings against the configuration notes in case of changes.
2. Administer all required settings on the switch.

Manual configuration

If you specified **Other** for the switch integration type, you must always configure both the MAS settings and the switch settings for each MAS.

To set up the basic PBX integration details for each MAS in this domain:

1. In the **Voice Mail System Configuration** window, expand **Message Application Servers**.
2. Expand the entry for this MAS, such as *MYMAS1*.
3. Right-click the server name, and then select **Telephony Configuration Wizard**.
4. Complete all steps in the wizard, as prompted. Use the configuration notes as required.
5. After you complete the wizard, restart messaging service so that you can configure the voice ports:
   a. Restore the **Monitor** window if you minimized it, or access the window to monitor services using one of these methods:
      - Double-click the **Monitor** icon on the desktop (if present). In the left pane, click **Services** if it is not already selected.
      - Right-click **My Computer** and select **Manage**. In the left (Tree) pane, expand **Services and Applications**, and then click **Services**.
   b. Click **Service (Local)** in the left pane, if the item is not already selected.

c. In the right pane, scroll down to **MM Messaging Application Server**. Right-click it and select **Stop**.

d. When service is stopped, right-click **MM Messaging Application Server** again and select **Start**.

The system restarts the MM Messaging Application Server service.

Note:

When you restart messaging service, the Monitor window immediately shows a status of **Started**. However, the service might actually take several minutes to start, depending on the number of port boards installed and the integration method.

e. Track the startup progress as follows:

1. Access the event viewer using one of these methods:
   - In the **Monitor** window, in the left pane, expand **Event Viewer (Local)**.
   - In the **Computer Management** window, in the left pane, expand **System Tools**, and then **Event Viewer**.
2. In the left (Tree) pane, click **Application**.
3. Refresh the window display periodically until you see Telephony User Interface event 1241, **TUI service has been enabled**. You can then proceed.

f. When service is restarted, minimize this window.

6. In the **Voice Mail System Configuration** window, expand **Message Application Servers**.

Note:

Some values might already be set. Follow the configuration notes for this PBX integration.

a. Expand the entry for the MAS (such as *MYMAS1*).

b. Double-click **Telephony Interface**. Configure the port boards in this MAS. Use the configuration notes; see Downloading configuration notes on page 4

c. Double-click **PBX Type**. Select the same type of PBX service as you did in Configuring the PBX type on page 83. Verify that the entry in the **PBXs** box is highlighted, and click **OK**.

d. *If multiple port groups are used,* double-click **Port Groups**. For example, you might use a unique group to support MWI.

e. Double-click **PBX Integration** and configure the integration type for this system. Use the configuration notes to specify or confirm the settings this switch integration requires.

Restarting messaging services

When you complete configuring the server, restart the messaging services:

1. Restore the **Monitor** window if you minimized it, or access the window to monitor MM Messaging Application Server service using one of these methods:
   - Double-click the **Monitor** icon on the desktop (if present). In the left pane, click **Services** if it is not already selected.
   - Right-click **My Computer** and select **Manage**. In the **Computer Management** window, the left (Tree) pane, expand **Services and Applications**, and then click **Services**.
2. In the left pane, click **Service (Local)**.
3. Restart MM Messaging Application Server service to accept any changes you made in the VMSC:
   a. In the right pane of the **Monitor** window, scroll down to **MM Messaging Application Server**. Right-click it and select **Stop**.
   b. When service is stopped, right-click **MM Messaging Application Server** again and select **Start**.

      The system restarts the messaging service.

      When you restart MM Messaging Application Server service, the **Monitor** window immediately shows a status of **Started**. However, service might actually take several minutes to start, depending on the number of port boards installed and the integration method.
   c. Track the startup progress as follows:
      1. Access the event viewer using one of these methods:
         - In the **Monitor** window, in the left pane, expand **Event Viewer (Local)**.
         - In the **Computer Management** window, in the left pane, expand **System Tools**, and then **Event Viewer**.
      2. In the left (Tree) pane, click **Application**.
      3. Refresh the window display periodically until you see Telephony User Interface event 1241, **TUI service has been enabled**. You can then proceed.
4. Verify that all messaging services required for this MAS are started:
   a. In the **Monitor** window, click **Services (Local)** in the left pane, if the item is not already selected.
   b. In the right pane, scroll down to the list of Modular Messaging services. All services start with the abbreviation **MM**. Verify that the **Status** column shows the correct state for each messaging service:

- Services that are required for this server must show **Started** and a startup type of **Automatic**.
- Services that are not required on this server must show a blank status and a startup type of **Disabled**.

Complete the following steps if necessary to change the status.

c. If the **Startup Type** for any **MM** service that is *not* required for this server is **Manual**:

1. Double-click the service to open the **Properties** window.
2. Set the **Startup type** to **Disabled**.
3. Click **OK** to close this window.
4. Refresh the screen to verify that all **MM** services *not* required for this server are **Disabled**. Repeat Step c as needed.

CAUTION:

All **MM** services that are *not* required for this server must be set to **Disabled**. Serious problems occur if you activate a service that is supposed to run on only one server in the VMD on multiple servers.

5. *For a multiple-MAS system,* after you configure the last MAS and install the license file, restart MM Messaging Application Server service on all servers in the VMD. A restart ensures that the voice mail domain-wide properties are consistent across the VMD. To restart service on all MASs in the voice mail domain:

a. Switch the monitor to show the next MAS in the system.

b. Repeat Steps 3 and 4 to restart service.

c. Repeat this procedure for each MAS in the system.

Verifying basic operation of this MAS

Complete the following tests to verify the basic functionality of this MAS.

- Verifying call-handling capability on page 100
- Verifying alarming setup on page 100
- Verifying Tracing Service operation on page 101
- Verifying Audit Service on page 101

Verifying call-handling capability

Perform this task on each MAS that is set up to handle calls.

This test confirms basic connectivity between the MAS and the switch.

1. If this MAS is in a multiple-MAS system, display the port monitor to ensure that the test call comes in on this MAS. For this procedure, see Setting up the port monitor on page 107.
2. From a telephone on the system, dial the message retrieval number for the Modular Messaging system.
3. Listen for the Modular Messaging system to answer.
4. Hang up.

Verifying alarming setup

Perform this task on any MAS that is set up for INADS or SNMP alarming. This test will not work if the alarming service is not installed or if alarming is set to **None**. To confirm the serviceability settings used at this site, see Configuring serviceability settings on page 83.

This test requires the receiving computer, either INADS or SNMP, to be set up by the appropriate party and ready to receive alarms.

To verify that alarm notification is working:

1. Click **Start** > **Run**.
2. In the **Run** window **Open** field, type **cmd** and press **Enter**.
3. In the command prompt window, type the following and press **Enter**:

   testaom -v

   The test shows the type of alarming that is set up (INADS or SNMP), the product ID for the MAS, and the alarming settings. The test takes about 1 minute to run.
4. Verify that the last line of the test reads:

   Alarm origination test successful

   Continue with Step 6.
5. *If the alarm test fails,* the last line of the test reads:

   Negative acknowledgement of transmission

   If the test fails, check your alarming settings, and then run the test again:

   - *For all systems,* see Configuring serviceability settings on page 83.

- *For systems that use INADS,* also check Configuring INADS alarming, if used on page 95.

6. Type **exit** and press **Enter** to close this window.

Note:

For instructions on accessing the MAS alarm or error logs, see the *Avaya Modular Messaging MAS Administration Guide*.

Verifying Tracing Service operation

If you enabled the Tracing Server software on an MAS or a supplementary Tracing server, test the Tracing System operation as follows:

1. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Operational History Viewer**.
2. Set up a live mode session for all MASs in the voice mail domain (VMD):
   a. In the **Operation History Viewer** window, click **File** > **New**.
   b. In the **Session Properties** window, verify that **Message Application Server** shows **All Servers** is selected.
   c. Click the check box for **Live Mode**.
   d. Verify that all the **Select Types** check boxes are checked.
   e. Under **Selection Activities**, verify that the **All Activities** check box is checked.
   f. Click **OK** to close this window.
3. Confirm that the Tracing Server can connect to all MASs in the VMD.
4. Confirm that the Operation History Viewer (OHV) displays the collected operation history events.
5. You can close the OHV, or keep it open to monitor acceptance tests. For more information, see Using the Operational History Viewer on page 106.
6. If you close the OHV, the system might prompt you to save the session. Click **No**.

Note:

For more information about using the Operation History Viewer, see the *Avaya Modular Messaging MAS Administration Guide*.

Verifying Audit Service

Use the MM Audit Log Viewer to view information captured by the MM Audit Service:

1. Click Start > Programs > Avaya Modular Messaging > MM Audit Log Viewer.

2. To connect to the database on the Audit server (complete these steps only if you are running the viewer on an MAS that is not the Audit server):
   a. On the **MM Audit Log Viewer** window, in the left-hand pane, right-click **All Events**.
   b. Click **Connect to Database**.
   c. In the **Server** field, enter the name of the MAS you set up as the Audit server.
   d. Click **Connect**.
3. On the **MM Audit Log Viewer** window, in the left-hand pane, click **All Events**.
4. In the right-hand pane, verify that events appear in the Audit Log.
5. Close the **MM Audit Log Viewer** window.

For more information, see *Avaya Modular Messaging MAS Administration Guide*.

Continuing the installation

If you have additional MASs to configure, return to Configuring an Avaya MAS on page 39 or Configuring a customer-provided MAS on page 55.

If you have configured all MASs, continue to Testing and backing up the system on page 103.

Chapter 7: Testing and backing up the system

This chapter describes how to perform acceptance tests to verify that the Modular Messaging system is providing full service. After functionality is verified, back up the system to protect the Modular Messaging configuration data.

Note:

Before you can successfully complete the tasks described in this section, you must have successfully completed the tasks in Chapter 6: Configuring the voice mail system on page 77.

Topics in this chapter include:

- Adding a test subscriber on page 104
- Setting up monitoring tools—optional on page 106
- Performing acceptance tests on page 108
- Removing the test subscribers on page 114
- Backing up the system on page 115
- Turning over the system to the customer on page 116

Adding a test subscriber

For a new installation, the directory server administrator previously created test subscriber accounts for each telephone user interface. See Creating test subscriber accounts on page 17. Before you can complete the acceptance tests, the administrator must assign Modular Messaging characteristics to these accounts.

Note:

If you are performing tests following a Modular Messaging software upgrade, you might want to test the system using subscribers that are already administered.

For details on administering Modular Messaging features, see Chapter 15, “Creating subscriber accounts for Microsoft Exchange," in the *Avaya Modular Messaging MAS Administration Guide*.

Complete the following sets to set up the test subscribers.

1. Log on to the Active Directory server using an account that has privileges to create new user accounts (such as *administrator*).

   Note:

   The Modular Messaging Active Directory Extensions must have been installed on the server before you can administer any subscribers. For additional information about the Modular Messaging Extensions, see Adding the Exchange extensions on page 35.

2. Click **Start** > **Programs** > **Microsoft Exchange** > **Active Directory Users and Computers**.
3. In the **Active Directory Users and Computers** window, expand the directory for the Windows domain you used for Modular Messaging.
4. In the left pane, click **Users**.
5. In the right pane, double-click a test subscriber account, such as *Aria Test Subscriber (testsub1),* to open the **Properties** window.
6. Click the **Modular Messaging** tab.

   Note:

   The first time you access this tab, you might see a **Choose Message Application Server** window. Enter the name of an MAS (or click **Browse** to select it), and then click **OK**.

   There might be a delay as the server logs in.

7. Set up the test subscriber with Modular Messaging features as follows:
   a. Click the check box to **Enable Modular Messaging**.
   b. Verify the voice mail domain (VMD).
   c. Enter the extension number, mailbox number, numeric address, and TUI password.

Note:

The numeric address must be unique among all the addresses in the messaging network. For example, you could prepend a **1** or the area code to the mailbox number.

All extensions for the test subscribers must be administered on the PBX by the appropriate party.

d. Click **Advanced**. In the **Advanced Properties** window:

   1. Select the appropriate **Class of service** for this test subscriber (for example, *Aria TUI*, *AUDIX TUI, or Serenade TUI*).
   2. In the **Capabilities** field, under **Message assistant**, click the check box to **Allow Message Waiting Indicator**.
   3. Click the appropriate check boxes to activate any other features that you have installed and must test at this site.
   4. Click **OK** to close this window.

e. When finished setting up this test subscriber, click **OK**.

8. To set up another test subscriber (for example, to test the MM AUDIX or MM Serenade telephone user interface), repeat Steps 5 through 7.
9. Although Message Waiting Indicator has been allowed, it must also be enabled for each test subscriber.
   a. Right-click **My Computer** and select **Manage**.
   b. In the **Computer Management** window, in the left pane, expand **Event Viewer**.
   c. Refresh the window display periodically until you see a **1027** event. You must see the 1027 event before you can proceed.
   d. In the **Active Directory Users and Computers** window, double-click the first test subscribers.
   e. Select the **Modular Messaging** tab.
   f. On the Modular Messaging tab, click **User Options**.
   g. In the **Assistant** window, click the **Message Waiting Indicator** box and the box for any other capabilities that you have previous activated and that you intend to test.
   h. Click **OK** to close this window.
   i. Repeat steps d through h for each test subscriber.
10. When finished, click **OK** to close the **Active Directory Users and Computers** window.

Setting up monitoring tools—optional

You can use the monitoring aids described in this section to help you complete the acceptance tests.

Using the Operational History Viewer

You can use the Operational History Viewer (OHV) to monitor call progress for any MAS. The viewer can help to identify the cause of the problem if errors occurs during testing.

Note:

If you are running the OHV on an MAS that is not running the tracing server service, you must first configure your data sources. For additional information, see the discussion about selecting a data source and ODBC tracing in the *Avaya Modular Messaging MAS Administration Guide*.

To open the Operational History Viewer:

1. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Operational History Viewer**.
2. Set up a live mode session for all MASs in the voice mail domain (VMD):
   a. In the history viewer window, click **File** > **New**.
   b. In the **Session Properties** window, verify that **Message Application Server** shows **All Servers** is selected.
   c. Click the check box for **Live Mode**.
   d. Verify that all the **Select Types** check boxes are checked.
   e. Under **Selection Activities**, verify that the **All Activities** check box is checked.
   f. Click **OK** to close this window.
3. During testing, monitor Operation History events in the Viewer. The OHV displays events as they happen on the system.
4. After testing is complete, close the OHV.
5. If the system prompts you to save the session, click **No**.

Setting up the port monitor

This task is optional for a one-MAS system, but is recommended for a system that has multiple MASs that are set up to take calls.

Tests calls can come in through the ports on various MASs in the system, depending on how the hunt group is set up on the PBX. If the Modular Messaging system has more than one MAS, use the port monitor to verify that the test calls you make are coming in on the ports of the MAS that you want to test.

To display the port monitor:

1. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Port Monitor**.
2. When the system prompts for the Message Application Server, select the MAS that you want to test (such as *MYMAS1*). Click **Select**.

   The **Port Monitor** window for this MAS is displayed.
3. You can repeat Steps 1 and 2 to bring up **Port Monitor** windows for multiple MASs if desired.
4. When you dial the Modular Messaging system message retrieval number during the acceptance tests, check the **Port Monitor** window to verify that the call is coming in on a port of the MAS that you want to test.
5. If the port monitor does *not* show that the test call is coming in on the desired MAS, hang up and dial the Modular Messaging system message retrieval number again.

   The number of times you might have to dial depends on the switch administration. For example, the hunt group might be administered to send each new call to the next MAS in the system, or it might be administered to send all the calls to one MAS before it moves on to a subsequent MAS.

Performing acceptance tests

Complete the following tests on each MAS that is set up to handle calls.

CAUTION:

Wait 5 minutes after completing the tasks in Chapter 6: Configuring the voice mail system on page 77 to give the system time to update all servers in the voice mail and Windows domains with the correct Modular Messaging information.

Creating and sending a call-answer message

The following test works only if call coverage has been assigned on the switch to route unanswered calls to the extension for the test subscriber.

To create and send a call-answer test message:

1. Call the MM Aria test-subscriber extension from any other telephone. Allow the Modular Messaging system to answer.
2. Speak into the telephone and record the following or a similar test message after the tone:

   "This is a test call answer message."
3. Hang up the telephone to disconnect.
4. Repeat Steps 1 through 3 for each TUI that you are testing.

Retrieving test messages in integrated mode

Test the fully integrated operation of the system as directed. You need access to the actual telephone whose extension number is assigned to the test-subscriber mailbox to perform this test.

To verify the receipt of the test messages in integrated mode:

1. *If MWI is installed:* Check the message waiting indicator (MWI) on the test-subscriber telephone. The MWI can be a light, a screen display, or a dial-tone stutter that you hear when you pick up the phone.

   Note:

   The message-waiting lamp might take up to 1 minute to light on the appropriate telephone after a test message is sent.

   If the MWI does not indicate that a call was received:

   a. Verify that the Mailbox Monitor and MWI services are started.

1. Access the window to monitor services using one of these methods:
   - Double-click the **Monitor** icon on the desktop (if present). In the left pane, click **Services** if it is not already selected.
   - Right-click **My Computer** and select **Manage**. In the **Computer Management** window, the left (Tree) pane, expand **Services and Applications**, and then click **Services**.
2. In the right pane, scroll down to the Modular Messaging (MM) services. Verify that the Status column shows that service is **Started** for each installed messaging service.
3. If service is stopped or if the Status column is blank, right-click the appropriate MM service and select **Start**.
4. When finished, click **OK** to close this window.

b. If service is started, check for a problem with the test subscriber administration, the switch integration or switch integration software, or the switch number administration for the test telephone.

2. From the test-subscriber telephone, dial the Modular Messaging system message retrieval number.
3. Enter the password for this mailbox and press #

   The system voices the name of the test subscriber.
4. The first time you access this mailbox, you answer a series of prompts to set up the mailbox for operation. Answer all voice prompts as directed.
5. After the mailbox is set up, retrieve the test message.

   The system uses different commands to retrieve messages depending on whether you are using the Aria or AUDIX user interface.

To retrieve a test message using the MM Aria interface:

1. After the mailbox is set up:
   a. Press **1** to review the new messages.
   b. Press **1** to retrieve a voice message.
   c. Listen to the message. If the message does not play properly, contact the remote support center.
   d. Press **7** to erase this message.
   e. Repeat Steps c and d to review the next message (if any), or press ***** to return to the main menu.
2. Hang up the telephone to disconnect when finished.
3. If MWI is installed, check the MWI on the test-subscriber telephone. The MWI should be off. If it is not off, check the MWI administration on the MAS and the PBX.

To retrieve a test message using the MM AUDIX interface:

1. After the mailbox is set up:
   a. Press **2** to review the new messages.
   b. Press **0** to listen to the test message. If the message does not play properly, contact the remote support center.
   c. Press *** D** (or *** 3**) to erase this message.
   d. Repeat Steps b and c to review the next message (if any), or press *** R** (or *** 7**) to return to the main menu.
2. Hang up the telephone to disconnect when finished.
3. *If MWI is installed:* Check the MWI on the test-subscriber telephone. The MWI should be off. If it is not off, check the MWI administration on the MAS and the PBX.

To retrieve a test message using the MM Serenade interface:

1. After the mailbox is set up:
   a. Press **5** to review the new messages.
   b. Listen to the test message. If the message does not play properly, contact the remote support center.
   c. Press **3** to erase this message.
   d. Repeat Steps b and c to review the next message, if any.
   e. Press the pound key (#) to return to the Ready menu.

Creating and sending a test message in nonintegrated mode

The system uses slightly different commands, depending on the telephone user interface you have. Differences are noted in the text.

To create and send a test message in nonintegrated mode:

1. Dial the Modular Messaging system message retrieval number from any telephone that is not administered on the system.

   The system voices the "Welcome to Avaya Messaging" prompt.
2. Press # to skip the system introduction.
3. Enter the extension number for test-subscriber mailbox.
4. Enter the password for this mailbox and press #.

   The system voices the name of the test subscriber.
5. To create a new message:

- On the MM Aria interface, press **2**.
- On the MM AUDIX interface, press **1**.
- On the MM Serenade interface, press **6**.

6. Speaking into the telephone, record the following or a similar test message after the tone: "This is a test voice mail message."
7. Press # to approve the message.
8. When the system prompts you, enter the mailbox number for any other test subscriber when prompted for the extension. Then press #.

   The system voices the name of the test subscriber.
9. To approve the message and address list:
   - On the MM Aria interface, press # twice (as prompted).
   - On the MM AUDIX interface, press #.
   - On the MM Serenade interface, press the pound key (#) twice.
10. Press # again to send the test message to the test-subscriber mailbox.
11. Hang up the telephone to disconnect.
12. Retrieve the message as described in Retrieving test messages in integrated mode on page 108.

Testing the outcalling capability

Test the outcalling capability of the system using the Modular Messaging (MM) Client software, also known as the Avaya Modular Messaging Subscriber Options package.

To test system outcalling:

1. Run this test from any machine where the Subscriber Administration extensions are installed. For details, see Adding the Exchange extensions on page 35.
2. Click **Start** > **Programs** > **Microsoft Exchange** > **Active Directory Users and Computers**.
3. In the **Active Directory Users and Computers** window, expand the directory for the Windows domain you used for Modular Messaging.
4. In the left pane, click **Users**.
5. In the right pane, double-click a test subscriber account and open the **Properties** window. For complete steps, see Steps 3 through 5 in Adding a test subscriber on page 104.
6. Click the **Modular Messaging** tab.
7. Click **User Options** to run the Modular Messaging client software.
8. Click the **Media Setup** tab.

9. Set up the recording and playback options to use a telephone near you:
   a. For **When composing voice messages**, select **Telephone**.
   b. Click **Configure**.
   c. In the **Telephone Properties** window, enter the extension number of a telephone near you.
   d. Select or enter the name of this MAS if needed. Click **OK**.
   e. For **When reviewing voice messages**, select **Telephone**.
   f. Repeat Steps b through d to set up telephone playback.
10. Re-record the recorded name. For example:
    a. *On an Exchange 2003 system:* In the **Modular Messaging User Properties** window, click the **Record Greetings** tab.
    b. Verify that the telephone will be used for recording and playback:
       1. Check the icon to the left of the status display. If it shows a telephone, continue with Step c.
       2. If the icon shows a terminal, right-click and select **Telephone**. The icon changes to show a telephone. Continue with Step c.
    c. Under Standard Greetings, select **Spoken Name**.
       1. Click **Record** (the red circle) on the player near the bottom of the window.
       2. When the telephone rings, answer it and record a name for the test subscriber after the tone.
       3. When finished, click **Stop** (the black square) on the player.
       4. Click **OK**.
11. Play back the spoken name to test outcalling, as follows:
    a. Click the **Play** button (large black single arrow) on the player near the bottom of the window.
    b. Answer the telephone when it rings.

       The picture of the phone changes to become off-hook.
    c. Listen for the system to play the spoken name of the test subscriber.
    d. Hang up the telephone.

       The picture of the phone changes back to being on-hook (this might take a couple of seconds).
    e. Click **OK** to close the **Modular Messaging User Properties** window.
12. When finished, close all open windows.

Creating and printing a fax message

Do this test only under the following circumstances:

- The MM Fax Sender server is installed in the VMD
- Perform this test on the MAS hosting the fax printer

To create and send a test fax message:

1. From a fax machine, send a fax to the test subscriber mailbox. This subscriber mailbox must be set up to be fax enabled.
2. Wait a few minutes for the fax to be delivered. The MWI lamp, if present, on the test subscriber telephone should light.
3. From a telephone (NOT the fax machine), dial the message retrieval number for the Modular Messaging system.
4. Press the pound key (#) to access the test subscriber mailbox.
5. Enter the extension number for the test subscriber mailbox.
6. Enter the password and press the pound key (#).

   The system voices the name of the test subscriber.
7. Retrieve and print the fax as follows:
   - On the MM Aria interface:
     a. Press **1** to retrieve new messages.
     b. Press **3** to retrieve the fax message.
     c. After the prompt finishes, press **2** and follow the prompts.
   - On the MM AUDIX interface:
     a. Press **2** to retrieve new messages.
     b. Press star (*****) **1** to print the fax.
     c. Press star star (******) **6** and follow the prompts.
   - On the MM Serenade interface:
     a. Press **1 9** to retrieve new messages.
     b. Press **8** to print the fax.
     c. Press **3** and follow the prompts.
8. Verify that the fax prints correctly.
9. *If MWI is installed,* check the MWI on the test subscriber telephone again. The MWI should be off.

Running additional tests

You might want to run additional tests to verify the correct operation of features that are particularly important to the customer. For example:

- Automated Attendant
- Call Me
- Find Me
- Octel Analog Networking

To test these or other features, see the *Avaya Modular Messaging MAS Administration Guide* for feature setup and operation instructions.

Removing the test subscribers

When acceptance testing is complete, remove any test subscribers using the normal procedures for this version of Microsoft Exchange. For example:

1. Log in to the directory server using an account that has privileges to delete user accounts (such as *administrator*).
2. Access Active Directory Users and Computers.
3. Expand the directory for the Windows domain you used for Modular Messaging.
4. In the left pane, click **Users** or **Recipients** as required.
5. In the right pane, right-click each test subscriber and select **Delete**.

Backing up the system

Before you back up the system, perform a complete DCT analysis of the supplementary server and all MASs. For more information, see Using the DCT to collect information from an MAS on page 125 or see the DCT online help system or its printed version, *Avaya Modular Messaging Data Collection Tool Help*, for a complete description of the procedure to analyze a system.

As a final installation task, set up the system to perform regular, scheduled backups of MAS-specific information using the normal backup procedures for this site. Avaya recommends that you do an attended backup now on each MAS to preserve the configuration information and to verify the backup function.

Customers should consider the following when designing their backup program:

- *DCT data file*: Be sure to include the most recent DCT data file in your regular backups. Periodically analyze your system with the DCT executable file (MMDCT.exe) to create a new updated data file to use in case of a disk failure. This is particularly important when changes are made to the Modular Messaging system. See the DCT online help system or its printed version, *Avaya Modular Messaging Data Collection Tool Help*, for a complete description of the procedure to analyze a system.
- *Customized tone files*: If analog port boards are installed in any MAS and you have created customized tone files, keep a copy of the tone files (*.tsf for Dialogic boards) in a network location where they are part of the normal backup procedure. Avaya suggests that all tone files be stored in the \Avaya_Support\Tone_Files directory. You might choose to back up this location or store a copy of the tone files elsewhere for backup.
- *Customized prompt files:* Keep a copy of customized prompt files stored in the **CustomPrompts.ovf** and **CustomPrompts_G711.ovf** files. The files are stored in the path c:\program files\avaya modular messaging\vserver.
- *Caller applications:* Caller Applications (*.uma files), once deployed, are stored on each MAS within a folder that has a GUID. The location for this folder is \Program Files\Avaya Modular Messaging\VServer\CallerApps. Avaya recommends that you back up a copy of this folder as follows:

  Deployed caller applications cannot be backed up using NTBackup while the Modular Messaging (MM) Messaging Application Server service is running. However, you can make a copy of the CallerApps folder while this service is running, and then make a backup of that (you could choose to create scripts to carry out this function).
- *Licensing files:* Keep a backup of the licensing files (*.xml) safe on another device or in another location.
- *SIP certificates :* For SIP implementations only, backup certificates and related files. From \Program Files\Avaya Modular Messaging\OpenSSL, backup the following files:
  - **AVA\dh1024.pem**, **certchain.crt**, and **certchain.key**
  - **CommonTrust\AvayaRoot\avayaprca.crt** and **sip_product_root.crt**.

  - **CommonTrust\CaHash\465bb314.0** and **ffbc7d70.0**
- *WSO:* Backup **\Program Files\Avaya Modular Messaging\Web Subscriber Options\masinfo.cfg**.
- *VMD account and Exchange mailbox*: Back up the VMD account and Exchange users mailbox.
- *Audit Database*: Follow Microsoft recommended SQL Server procedures to backup the MM Audit Database.
- *Operation History* and *Transaction Databases*: Used by the MM Tracing Server and MM Reporting Tool. From \Program Files\Avaya Modular Messaging\Tracing, backup the following files:
  - trxdb.mdb
  - ophist.mdb

  Schedule the backup of these files before nightly cleanup processes are scheduled to run.

Running periodic checks

Perform scheduled maintenance on the MAS routinely to keep the hard disk in good condition. Run the following on a regular basis:

- Disk Defragmenter system tool
- **chkdsk** command

Turning over the system to the customer

At this point, the system is considered ready for handoff to the customer. Handoff considerations include:

1. Hand over the latest analyzed DCT data file to the customer. Then erase the file from your USB storage device.
2. Advise the customer about the initial administration that was completed. The customer might want to customize features such as:
   a. Any feature parameters in the Voice Mail System Configuration (VMSC) program.
   b. The classes of service to use for subscribers might need to be updated or expanded.
3. Advise the customer about the ongoing administration that is required, such as customizing parameters, installing client packages, and maintaining the system. For more information, direct the customer to the administration topics on the documentation media.

The system is set up to send alarming information and receive incoming technical support calls. Customers who do not want this service in place must disconnect the USB modem from the MAS.

Chapter 8: Upgrading Modular Messaging software on an Avaya MAS

This chapter describes how to upgrade an Avaya MAS or a Supplementary server that is running Modular Messaging Release 3.0, Release 3.1, or Release 4.0 software to Modular Messaging Release 5.1. In Modular Messaging Release 5.1, the process for upgrading an Avaya MAS and a Supplementary server is the same. You need to upgrade each MAS and then upgrade the Supplementary server.

Note:

You *cannot* upgrade from Release 1.1 to Release 5.1 or upgrade an S3400 server to Modular Messaging Release 5.1. Migration is the *only* way you can move the Modular Messaging system from:

- Release 1.1 to Release 5.1
- An S3400 server to Modular Messaging Release 5.1

If you are upgrading a customer-provided MAS, do not use the procedure in this chapter. See Upgrading Modular Messaging software on a customer-provided server on page 141.

If you are migrating to Modular Messaging Release 5.1 from Release 1.1 or replacing S3400 servers with S8730 servers, see Migrating to Modular Messaging Release 5.1 on an Avaya MAS on page 163.

CAUTION:

If you are upgrading to Exchange 2007 or adding Exchange 2007 mail servers, complete the upgrade to Modular Messaging Release 5.1 before you begin the Exchange 2007 upgrade or additions. These are separate upgrade procedures and should not be completed concurrently.

Topics in this chapter include:

- Upgrade requirements on page 120
- Preparing for the upgrade from Release 3.x or Release 4.0 on page 121
- Performing pre-upgrade tasks on page 123
- Upgrading Modular Messaging software on page 130
- Completing server setup on page 135
- Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade on page 137

Upgrade requirements

To successfully upgrade a system to Modular Messaging Release 5.1, you need:

- Release 5.1 of the Modular Messaging application software and documentation:
  - *Avaya Modular Messaging Messaging Application Server Software* media
  - *Avaya Modular Messaging Documentation* media
- The planning forms or DCT used to install the existing Modular Messaging system.
- The following information and software from the Avaya Support Web site at http://www.avaya.com/support. For more information about how to access these items on the Web site, see Downloading required software and documentation on page 3.
  - The latest copy of the configuration notes for this switch integration.
  - Avaya software updates that are required to bring the Avaya Modular Messaging software up to date after an upgrade. Download this software to a USB storage device.
  - The latest copy of the DCT executable file (**MMDCT.exe**). Download the file from the Avaya support site to a USB storage device.
  - The latest Modular Messaging Client software package.
- A printed copy of the upgrade checklist for an Avaya MAS. See Modular Messaging upgrade on an Avaya MAS on page 226.
- You must obtain a new RFA license for your upgraded system. For additional information, see Obtaining and installing a license on MAS#1 on page 85.

CAUTION:

For an upgrade from Release 3.x to Release 5.1: Release 5.1 does not support the following TTS engines: DecTalk and TTS3000. If you were using either of these TTS engines, the upgrade automatically removes them and installs the ScanSoft RealSpeak TTS engine.

Prepare the server for the upgrade by running recommended disk checks. See Running recommended disk checks on page 127.

Preparing for the upgrade from Release 3.x or Release 4.0

Note:

A Modular Messaging software upgrade requires several server restarts. Plan to do the software upgrade during low-usage hours.

To upgrade the system to Modular Messaging Release 5.1:

1. Review the configuration notes for any changes that might be needed in the areas of board configuration, switch programming, and application configuration. For more information, see Upgrade requirements on page 120.
2. Complete pre-upgrade tasks to verify and save data, verify the DCT data file (*.mmdct), busy out ports, back up the MAS, run recommended disk checks, and stop and reset Modular Messaging services. For more information, see Performing pre-upgrade tasks on page 123.

   Note:

   When creating the DCT data file, include in the analysis any S3400 MASs or S3500 MASs that will be replaced with S8730 MASs. Also include the supplementary server if one is present. A DCT data file is not required for the upgrade. However, create one prior to the upgrade to save important system information for backup.

   If you are replacing Brooktrout boards with new Dialogic port boards, replace the boards before you begin the software upgrade.
3. Upgrade software on each MAS including: RealSpeak software, Dialogic drivers, and Modular Messaging software. For more information, see Upgrading Modular Messaging software on page 130.
4. Complete server setup by deleting old logs files, administering anti-virus software, installing Modular Messaging software updates, updating Microsoft Windows, disabling the private LAN, and enabling ports.
5. Configuring new Release 5.1 features and verify that required services are running.

   Note:

   Completely upgrade and test one MAS first, and let it run for 15 minutes before upgrading any additional MASs.
6. Update the Modular Messaging Subscriber Administration extensions on each MAS and any other computer where Modular Messaging was previously installed (such as administrator machines or the Exchange server). Update client software on client machines where it was previously installed. See detailed steps in Chapter 3: Adding Exchange extensions for Modular Messaging on page 33 and Updating client software on page 244.

Note:

Schedule downtime for the Microsoft Exchange server if the Modular Messaging Subscriber Administration extensions must be updated.

7. Perform acceptance tests on the entire system. See Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade on page 137.
8. Back up the new data. See Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade on page 137.

CAUTION:

All servers must meet the requirements listed in the *Avaya Modular Messaging Concepts and Planning Guide*. Review this document to verify that all Exchange servers, directory servers, MASs, and client machines are ready to support Modular Messaging software.

Considerations for multiple-MAS upgrades

In a multiple-MAS configuration, Avaya strongly recommends that all MASs that are running Release 3.x or 4.0 software be upgraded to Modular Messaging Release 5.1 software as soon as possible. During an upgrade MASs in the same Voice Mail Domain can run different releases of Modular Messaging. However, at the completion of an upgrade, all MASs in the Voice Mail Domain must be running Release 5.1.

All MASs in the voice mail domain must be upgraded to the same release of Modular Messaging software before you can enable the new Release 5.1 features.

Switching the monitor to show the correct server

You must switch the display from one server to another during a system upgrade.

For an 8-port Belkin KVM: the KVM switch is usually connected to the first Avaya MAS through the first computer port (VGA 01). Subsequent MASs (if present) are connected to computer ports VGA 02, VGA 03, and so on.

To show a different server on the monitor:

1. Gently press **Scroll Lock** twice and then press the up (or down) arrow key to change to the server connected to a higher (or lower) port number.

   Alternatively, type the port number using the keyboard. For example, type **1** for port 1.
2. If you cannot access the correct server, verify that the cable connections are correct. To correct cable problems, power down the system and correct the cable connections. Then turn on the system again.

For complete user and troubleshooting instructions, see the KVM switch documentation.

Performing pre-upgrade tasks

It is important that you record all critical system settings and back up all data in advance. Complete the following tasks to prepare the Modular Messaging system for an upgrade:

- Verifying and saving data on page 123
- Using the DCT to collect information from an MAS on page 125
- Busying out ports on page 127
- Backing up the MAS on page 127
- Running recommended disk checks on page 127
- Logging off all remote logins on page 128
- Stopping Modular Messaging services on page 128
- Applying Microsoft Windows Server 2003 Service Pack 2 on page 128
- Updating Windows Internet Explorer 7 security on page 128

Verifying and saving data

Complete the following tasks before you start a Release 5.1 upgrade:

1. Verify key settings on the MAS, including:
   - Switch integration settings
   - Port board settings and extensions
   - Domain information
   - Basic system setup
   - Modular Messaging service account and group
   - Exchange settings

   Ensure that you record the following items:
   - Record the IP addresses for the MAS modems in the remote access service (RAS) group.
   - In the VMSC for each MAS, record any *non-default* port groups and their names, such as the MWI port group.
   - Record which Modular Messaging services are running on each MAS.
   - Record the SNMP trap destination and community details from the **Serviceability — Voice Mail Domain** window.

2. For a Release 3.0 only, complete the following steps to record all personal operator schedules. This information will be required to verify the schedules following the upgrade.
   a. Click **Start > Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration**.
   b. Under the voice mail domain name, double-click **Telephone User Interface**.
   c. Select the **Personal Operator Schedules** tab.
   d. Click each schedule listed in the Schedules box and record the times set for each schedule.
   e. Close all windows.
3. On the MAS, disable alarms:
   a. Click **Start > Programs > Avaya Modular Messaging > Voice Mail System Configuration**.
   b. Under the voice mail domain name, double-click **Serviceability**.
   c. On the **Serviceability** page, on the **General** tab, select **Suppress alarm notifications**.
   d. Close all windows
4. If you use this MAS to create, administer and deploy caller applications, back up all your working files to a location other than the MAS. Additionally, on the MAS you must have a current backup of the Caller Apps folder that contains the deployed caller applications that the MAS uses when it is running. For example, you might have a backup of C:\Program Files\Avaya Modular Messaging\vserver\callerapps. Make a copy of the entire callerapps directory.
5. Review the configuration notes for any changes that might be needed regarding board configuration, switch programming, and application configuration. Verify configuration and make necessary changes as part of the upgrade.
6. Make a complete backup of all caller applications, customized tone files, customized prompt files, licensing files, WSO files and SIP certificates for SIP implementations. Also back up the system state and spool. See Backing up the system on page 115 for information about where to locate these files on your system.
7. Check for errors or warnings on the system. Resolve major and minor alarms.
8. Use the time estimates to set customer expectations for the time required to complete the upgrade.
9. Review product functionality with the customer, including:
   - Differences that will be noticeable to the customer
   - Known issues; see Product Support Notices (PSNs) on the Avaya support website
   - Rollout plan for new features
   - Security concerns

Using the DCT to collect information from an MAS

Use the Avaya Modular Messaging Data Collection Tool (DCT) to collect information from each MAS and Supplementary server.

Always check the Avaya Support Web site at http://www.avaya.com/support to obtain the most recent version of the DCT program. Download the mmdct.exe file to a storage device and use it instead of the one on the applications DVD. A DCT data file (*.mmdct) is not required for the upgrade. However, create a data file prior to the upgrade to save important system information for backup.

To create a DCT data file:

1. Verify that the Modular Messaging system is working properly. All MASs, the supplementary server, if present, and the Exchange message store must be running.
2. Switch the monitor to show MAS1. For more information, see Switching the monitor to show the correct server on page 122.
3. Log on using the customer account (for example, *mmacct*).
4. Verify that the messaging services on the MAS are running:
   a. Double-click the **Monitor** icon on the desktop or click **Start** > **Programs**> **Administration tools** > **Services**.
   b. In the left pane, click **Services (Local)**.
   c. In the right pane, scroll down to the list of Modular Messaging services. All services start with the abbreviation **MM**.
   d. Verify that the **Status** column shows that service is **Started** for each messaging service that belongs on this MAS.
   e. If service is not started for a required messaging service, right-click that **MM** service and select **Start**.
5. Insert the USB storage device with the DCT executable file (MMDCT.exe) into a USB port on MAS1. You can use any of the available USB ports.
6. Navigate to where you stored the executable file and double-click it.
7. On the **Select the DCT Configuration to use** screen, select **Analyze existing system**. Click **OK**.
8. When asked if you want to use an existing DCT data file (*.mmdct), click **No**.
9. On the **MM System Analysis** screen, select MAS#1 from the dropdown list at the bottom of the window. Click **Start**.

   The system displays the process of data collection. When analysis is complete, you see the message “information has been successfully collected,” The DCT displays the newly created DCT data file.

10. For a single-MAS upgrade, proceed to step 12. For a multiple-MAS system, save the DCT data file to a USB storage device.
11. For a multiple-MAS system, update the DCT data file with information from additional MASs and supplementary server:

    Note:

    Analyze all MASs in numeric order, first to last.

    a. Insert the USB storage device with the DCT data file created for MAS#1 into the USB port on the next MAS that you are going to analyze.
    b. Verify that the correct services are running on the MAS.
    c. On the USB storage device, double-click **MMDCT.exe**.
    d. On the **Select the DCT Configuration to use** screen, select **Analyze existing system**. Click **OK**.
    e. When asked if you want to use an existing DCT data file, click **Yes**.
    f. Navigate to where you saved the DCT data file that you created for MAS#1. Double-click it.
    g. In the **MM System Analysis** window, choose the number of the MAS that you are analyzing from the dropdown list at the bottom of the window. Click **Start**.

       The system displays the process of data collection. When analysis is complete, you see the message that information has been successfully collected. The DCT displays the newly updated file.
    h. Save the DCT data file by overwriting the previous file.

    CAUTION:

    In multiple-MAS systems, review and revise the DCT data file after analyzing all MASs that are to be upgraded. Information that is manually entered before the final analysis might be overwritten in the analysis of subsequent MASs.

    Do not change any data that was populated by the DCT system analysis.
12. Review the completed file. Enter information in empty fields if necessary.

    Note:

    Verify that there are no red Xs next to the screen names in the left panel. Red x's indicate data that is incomplete or not valid. Information must be complete and valid before you can proceed with the upgrade. The DCT does not populate all fields when analyzing a system. It will be necessary to enter information, for example, passwords
13. When all fields in the DCT are complete, click **Complete** at the bottom of the screen. *S*ave the file to a location where it will be included in the backup. A DCT data file is not required for the upgrade. However, create one prior to the upgrade to save important system information for backup.

Busying out ports

Busy out the ports on the MAS that you are upgrading and on the switch before you start the upgrade. Otherwise, messages will spool on the MAS, and add to the upgrade time.

To busy out the ports:

1. The PBX administrator must use the procedures appropriate for this PBX to busy out the ports. Depending on the switch integration, the administrator might be able to temporarily reroute calls to other MASs. If an MAS is unavailable, callers into the system might hear ring-no answer or a busy signal.
2. Switch the monitor to show the MAS.
3. Use the port monitor to disable the MAS ports:
   a. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Port Monitor**.
   b. In the **Port Monitor** window, hold down the **Shift** key or Control (**Ctrl**) key and click to select all the ports.
   c. Right-click the port list and select **Disable**.
   d. Verify that the status of all ports is **Disabled**.
   e. Click **OK** to close this window.

Backing up the MAS

Before beginning the software upgrade, make a current backup of the important system files, including any customized tone files and the DCT data file that you just created. For this procedure, see Backing up the system on page 115.

CAUTION:
If any MAS backup fails to complete, *Do not* proceed with the upgrade. Contact your remote support center for assistance.

Running recommended disk checks

Avaya recommends that the hard disk drive in the server be maintained to prevent possible problems. Run the two following procedures if they were not previously run in preparation for the upgrade. See Upgrade requirements on page 120.

- Disk Defragmenter system tool
- **chkdsk** command

Logging off all remote logins

To log off all remote logins:

1. Log on to the MAS using an account that has administrative permissions.
2. Click **Start** > **Programs** > **Administration**.
3. Open your **Windows Task Manager** and select the **Users** tab.
4. Select remote logins and click **Logoff**.
5. If there are no remote logins, click **Cancel** to exit.

Stopping Modular Messaging services

Stop and reset all Modular Messaging (MM) services as follows:

Note:

If you have not already recorded the Modular Messaging services running on this MAS, do so now before stopping services.

1. Navigate to the **C:\Avaya_Support\tools\servicecontrol** directory.
2. Double-click the **StopMMServices.exe** file.

Applying Microsoft Windows Server 2003 Service Pack 2

All MASs in the Voice Mail Domain must be running Microsoft Windows Server 2003 Service Pack 2 for Modular Messaging Release 5.1. Install Microsoft Windows 2003 Service Pack 2 on this MAS. Check with the Windows administrator for site-specific procedures.

Updating Windows Internet Explorer 7 security

If your Avaya MAS has been upgraded to Internet Explorer 7 and if you are installing third-party software from a mapped network drive complete the following steps to update Explorer 7 security. If you do not make this update and you use a domain account to install third-party software, Windows will not allow the installation. This procedure is not necessary if you are installing third-party software from a disk or other removable media such as a USB storage device.

1. Map to the network drive where the third-party software resides.
2. Launch Windows Internet Explorer 7.

3. If a window appears that states Windows Internet Explorer Enhanced Security is enabled: click **OK**.
4. From the browser, select **Tools > Internet Options**.
5. On the **Internet Options** window, select the **Security** tab.
6. In the **Select a zone to view or change security settings** box, click **Local intranet**.
7. Click **Sites**.
8. On the **Local intranet** window, in the **Add this website to the zone** field, type the universal naming convention (UNC) path of your mapped network drive, using the format: \\<***computername***>\<***share***>. Click **Add**.
9. Click **OK** to close the Local intranet and Internet Options windows.

Upgrading Modular Messaging software

Use the following procedures to upgrade from Release 3.x or 4.0 to Release 5.1

- Upgrading Overnight on page 130
- Upgrading RealSpeak software on page 130
- Starting all Modular Messaging services on page 131
- Upgrading Dialogic drivers on page 131
- Upgrading MAS software on page 132

Upgrading Overnight

If you run the upgrade overnight, use the Voice Mail System Configuration application to disable the tracing database nightly tasks. After you complete the upgrade successfully, you must enable the scheduled tasks again when you perform the procedures in Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade on page 137.

Upgrading RealSpeak software

Complete the following tasks *only* if you are upgrading from Release 3.x.

This section describes how to update the RealSpeak driver and languages as part of a Release 5.1 software upgrade.

To upgrade RealSpeak software, complete the following steps:

1. Log on to the MAS using the account that was originally used to install RealSpeak software. If you do not know which account was used, complete the following steps:
   a. Log on as the customer account (for example, *mmacct*).
   b. Click **Start** > **Control Panel** > **Add or Remove Programs.**
   c. In the list of currently installed programs, look for the **RealSpeak** program. If it is in the list continue with step 2 to delete the program.
   d. If the program was not in the list, repeat steps a through c with different accounts until you locate the RealSpeak program.
2. Insert the *Avaya Modular Messaging Messaging Application Server Software* (DVD 2 of 2).
3. From the DVD, run the **RealSpeak\uninstallRealspeak.bat** file.
4. Reboot the MAS.
5. Log back on to the MAS using the account that was originally used to install RealSpeak software.
6. On the MAS, delete the folder **<*drive letter*>:\Program Files\ScanSoft**.

7. Verify that the *Avaya Modular Messaging Messaging Application Server Software* media (disk 2) is in the DVD drive of the MAS.
8. In the media's **Realspeak** directory, double-click the **installRSEngine.bat** file.
9. Complete the wizard, accepting all defaults and the license agreement.
10. On **Ready to Install the Program**, click **Install**.
11. When installation is complete, click **Finish**.
12. Click **Yes** to restart the server.
13. Log back on to the MAS using the customer account.
14. In the **Realspeak** directory, double-click the **installRSLangs.bat** file.
15. After the RealSpeak languages are installed, remove the *Avaya Modular Messaging Messaging Application Server Software*.

Starting all Modular Messaging services

Restart Modular Messaging services and verify that they are running:

1. Click **Start** > **Run** to open the **Run** window.
2. In the **Open** field, type the following and press **Enter**:

   C:\Avaya_Support\Scripts\serverrecovery.vbs

   The script takes a few seconds to run.
3. Verify that the services are set correctly.

Upgrading Dialogic drivers

Do this task on each MAS that contains Dialogic port boards.

Complete these steps on any MAS that contains Dialogic port boards to update the drivers.

1. Log on to the MAS using the customer account (for example *mmacct*).
2. Insert the *Avaya Modular Messaging Messaging Application Server Software* media (disk 1) in the DVD drive of the MAS.
3. Uninstall Dialogic drivers:
   a. In the media's **\Dialogic Drivers** directory, double-click the **MMDialogicUninstall.bat** file.
   b. On the Question window, click **No**.
   c. On the Confirm Uninstall window, click **OK**.
   d. On the Maintenance Complete window, select **Yes, I want to restart my computer now** and then click **Finish**.

4. Log on to the MAS using the customer account.

   The **Clean-up Utility** runs automatically.

5. On the Hardware Update Wizard, click **Cancel**.
6. Reinstall Dialogic drivers:
   a. In the media's **\Dialogic Drivers** directory, double-click the **MMDialogicUpgrade.bat** file.
   b. Complete the wizard, accepting all defaults.
   c. If a warning window about Java appears, click **OK**.

      A **Setup Status** window appears and installation begins.

      After the Dialogic files install, a **Found New Hardware** window appears.

   d. Select **No, not this time**, and click **Next**.
   e. Select **Install the software automatically**, and click **Next**.
   f. In the unsigned driver dialog box, click **Yes**.
   g. After the board is set up, click **Finish**.
   h. Repeat these steps for all Dialogic boards on this MAS.
   i. On the Setup Complete window, select Not to restart the computer and click **Finish**.
7. Restart the MAS and log on using the customer account.
8. From the media's **\Dialogic Drivers\mm_install** directory, double-click the **SetDialogicSettings.exe** file. This restores the Dialogic configuration to the MAS.
9. Start the Dialogic drivers:
   a. Click **Start** > **Programs** > **Intel Dialogic System Release** > **Configuration Manager - DCM**.

      The system displays the Intel Dialogic product **Configuration Manager** window.

   b. On the button bar, click the green **> (Start)** button.

      Wait for the devices to start and the installed boards to show a green light.

   c. Close the **DCM** window.
10. Reboot the MAS.

Upgrading MAS software

Note:

If anti-virus software is installed, Avaya recommends that you disable it while you upgrade the Modular Messaging software to prevent possible negative interactions. Enable the virus-checking software again after the upgrade is complete.

To upgrade the software on this MAS to Modular Messaging Release 5.1:

1. If you changed any logging settings before the upgrade, complete the following steps:
   a. Launch **c:\avaya_support\tools\MM_Logging\MMLogging.exe**.
   b. Record any values that you changed, such as **Log file size** and **Number of log files**.
2. Close all monitoring tools, such as the port monitor.
3. Log on to the MAS using the customer account (for example *mmacct*).
4. Insert the *Avaya Modular Messaging Messaging Application Server Software* media (disk 1) in the DVD drive of the MAS.
5. In the *Avaya Modular Messaging Messaging Application Server Software* media (disk 1) **Install** directory, double-click the **Setup.exe** file.

   The system launches the Avaya Modular Messaging Installation Wizard. All components that were previously installed on this machine, and the Diagnostic tools, are automatically selected. These selections cannot be changed. The currently installed version is displayed to the right of the specific tool or application. The version that is to be installed is displayed at the top of the page following the Avaya Modular Messaging title.

   a. Verify that the **Select Configuration** field displays **Microsoft Exchange**.
   b. For all upgrades check the following boxes:
      - **Enable Windows Installer logging**
      - **Fax Sender Server**
   c. For Release 3.x or Release 4.0 to Release 5.1 upgrades also select the following check boxes:
      - **MM Configuration Tools**
      - **Snapshot Utility**
      - **Web Subscriber Options User Interface**
      - Any additional components that are necessary for this MAS
   d. Click **Install**.
   e. Click **Run System Upgrade**.
   f. When prompted, click **Restart** to continue the upgrade.
6. When the reboot is complete, log on as the Modular Messaging customer account (such as *mmacct*).

   The Installation Wizard starts automatically. If the wizard does not automatically start, double-click the **Setup.exe** file.
7. Follow prompts to remove service packs and patches as needed. Depending on the patch, if the system requests it, restart the server.

   The system upgrades the Modular Messaging software components. This step can take several minutes.

8. If prompted by the system, enter the password of the account used by Modular Messaging services.
9. Follow the installation Configuration Wizard prompts.

   The system upgrades the Modular Messaging software components. The components window shows which component is being installed. The system pauses for several minutes when installing the Avaya SPIRIT Agent. This is normal. Also, this step might take several minutes for a large database or a global address list (GAL).
10. If you installed Web Subscriber Options, follow the prompts to complete the installation wizard.
11. When the Installation Wizard flashes a warning that installation is not complete, restart the system and log back on as the Modular Messaging customer account (such as *mmacct*).

    The Installation Configuration Wizard runs automatically displaying the Service Configuration window.
12. When the update is complete, click **Finish**.
13. Remove the media from the DVD drive.
14. Verify the settings of the MM Services. If any are incorrect, reset them to the correct setting.
15. If you disabled the anti-virus software on this MAS, enable it again now.

Completing server setup

- Verifying anti-virus software on page 135
- Installing software updates on page 135
- Updating Microsoft Windows on page 136
- Enabling ports on page 136
- Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade on page 137
- Updating client software on page 244

Verifying anti-virus software

Avaya strongly recommends that anti-virus software be installed on any Microsoft Windows computer that runs Avaya Modular Messaging software. The type of virus-checking software used and the method of installation depends on customer requirements and the local implementation. Verify that the MAS is running the latest version of the anti-virus software. For additional guidelines for configuring anti-virus software, see, see Administering anti-virus software on page 48.

Installing software updates

A new Modular Messaging system ships with the most current software that is available at the time. However, the software must be updated after an upgrade to include the latest changes. The updates might be in the form of an Avaya Service Pack (SP) or a software patch (hot fix).

To determine if a Modular Messaging software update is needed:

1. Locate any relevant Avaya software updates on the Avaya Support Web site at http://www.avaya.com/support. For complete steps, see Obtaining software updates from the Web on page 307.

   Note:

   If you followed the procedure for Downloading software updates on page 4, you already downloaded any required software updates.

2. If the Modular Messaging system requires a software update, complete the update procedure now before you do acceptance testing. Follow the instructions in Appendix F: Updating Modular Messaging software on page 307 to update the system with the latest changes.

Updating Microsoft Windows

After an upgrade you must install the latest Microsoft Windows system updates, security patches, and hot fixes to protect the operating system from known security weaknesses. Check with the appropriate Windows administrator for the software update procedures to use at this site.

Note:

Avaya technical support representatives must follow their specified internal procedures for verifying the software that is installed. If required, they must update the software with the latest patches as instructed.

Disabling the private LAN

The Modular Messaging private LAN is not used with Microsoft Exchange configurations. Disable the private LAN by completing the following steps:

1. In the **Network Connections** window highlight either **HP NC373i Multifunction Gigabit Server Adapter #2**, or **HP NC373i Multifunction Gigabit Server Adapter,** whichever appears in the window. Right-click your selection. From the drop-down list, select **disable**.

In the **Network Connections** window, from the toolbar menu, select **Advanced** > **Advanced Settings**. Verify that the corporate LAN is listed at the top of the list of connections. If not, highlight the name of the corporate LAN and use the arrows to move it up in the list. When finished, close the **Advanced Settings** and **Network Connections** windows.

Enabling ports

Enable the ports on the MAS that you are upgrading.

Use the port monitor to enable the MAS ports:

1. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Port Monitor**.
2. In the **Port Monitor** window, hold down the **Shift** key or Control (**Ctrl**) key and click to select all the ports.
3. Right-click the port list and select **Enable**.
4. Verify that the status of all ports is **Enabled**.
5. Close the **Port Monitor** window

Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade

This section describes the topics required to complete the upgrade of the Modular Messaging system to Release 5.1.

Continue the Modular Messaging software upgrade as apprpriate:

1. If you have more than one MAS:
   a. ***For the first MAS upgraded only,*** let the Modular Messaging software run for 15 minutes. Return to Switching the monitor to show the correct server on page 122 to begin upgrading the next MAS.
   b. Repeat the Modular Messaging software upgrade procedure until all MASs are upgraded.

   CAUTION:
   Perform steps 2 and 3 only if you are upgrading from Release 3.x to Release 5.1.
2. Enable and configure MM Fax Service. If this MAS is to run the MM Fax Sender Service, complete the following steps:
   a. Navigate to the **C:\Avaya_Support\Utils** directory.
   b. Double-click the **FaxSenderEnable.exe** file.
   c. Restart Microsoft Windows Fax Service.
   d. Configure MM Fax Service by completing the steps described in Configuring the MM Fax Sender server on page 91.

   Note:
   The dual span QSIG boards require configuration of the **FirmwareFile 2** parameter on the **Intel Dialogic product Configuration Manager - Properties** window. For more information, see Configuring T1-QSIG or E1-QSIG boards on page 296.
3. Configure Audit service by completing the steps described in Configuring Audit Service on page 91.
4. Configure and activate additional new Release 5.1 features as needed using the Voice Mail System Configuration program.
5. Enable all scheduled tasks that you disabled before starting the upgrade.
6. Update the Modular Messaging Active Directory Exchange extensions on machines where they are installed. See Chapter 3: Adding Exchange extensions for Modular Messaging on page 33.

Note:

The Modular Messaging Active Directory Exchange extensions are updated along with other Modular Messaging software that is installed on this machine (multiple Modular Messaging software component check boxes might be selected). This ensures that all currently installed components are upgraded. The components are installed in the correct order when you click **Install**.

7. Update the client software on non-MAS machines where it is installed. See Updating client software on page 244.
8. When finished with each MAS, verify that the MAS disk is in good condition by running the following:
   - Disk Defragmenter system tool
   - **chkdsk** command

   CAUTION:

   Perform step 9 only if you are upgrading from Modular Messaging Release 3.0.
9. Do the acceptance tests that are appropriate for each server; see Performing acceptance tests on page 108. For example:
   a. For an MAS, test to check if the server can send and receive calls.
   b. For all servers, verify that the services run on the appropriate server.
10. Run a DCT analyze on the system; see Using the DCT to collect information from an MAS on page 125.
11. Complete the following steps to verify all Personal Operator Schedules:
    a. Click **Start > Programs > Avaya Modular Messaging > Voice Mail System Configuration**.
    b. Under the voice mail domain name, double-click **Telephone User Interface**.
    c. Select the **Personal Operator Schedules** tab.
    d. Verify that all Personal Operator Schedules recorded before the upgrade are included in the list. If a schedule is missing, complete the following steps:
       1. Click the **Add** button
       2. In the **Enter Personal Operator Schedule Name** dialog box in the **Schedule Name** field, enter the name of the missing schedule.
       3. Click **OK** to return to the Personal Operator Schedules tab.
       4. In the schedule grid, enter the schedule times.
    e. Click each Personal Operator Schedule in the schedule list and verify that the schedule times correspond to the times recorded before the upgrade. Correct discrepancies in the schedule grid.
    f. Close all windows.

12. Review event and alarm logs and resolve problems; obtain the *Avaya Modular Messaging MAS Administration Guide*; see Downloading user documentation on page 5.
13. Run backups on each MAS; see Backing up the MAS on page 127.
14. Perform this step *only* if you are upgrading from Release 3.x. Due to a change in file names, old logs might remain on the system. Remove old logs from ***c:\avaya_support\logs*** folder on each MAS and delete logs that are older than the upgrade's start time.
15. On the MAS, enable alarms:
    a. Configure the SNMP trap destination and community details using the **Serviceability - Voice Mail Domain** window of the Voice Mail System Configuration program. Enter the SNMP trap destination and community information you recorded before beginning the upgrade.
    b. Click **Start > Programs > Avaya Modular Messaging > Voice Mail System Configuration**.
    c. Under the voice mail domain name, double-click **Serviceability**.
    d. On the **Serviceability** page, on the **General** tab, clear the **Suppress alarm notifications** check box, to turn on the alarm notifications options.
    e. Click **Save** to save the changes.
    f. Close all windows.
16. If you are adding a new MAS to this system, begin the installation now. For more information, see *Avaya Modular Messaging S3500-Family Hardware Maintenance and Additions*.

For post-install procedure of. the MAS,
see Post-installation procedures for Modular Messaging on page 243

Chapter 9: Upgrading Modular Messaging software on a customer-provided server

This chapter describes how to upgrade a customer-provided MAS or supplementary server that is running Modular Messaging Release 3.0, Release 3.1, or Release 4.0 software to Modular Messaging Release 5.1.

Note:

You *cannot* upgrade from Release 1.1 to Release 5.1. Migration is the *only* way you can move the Modular Messaging system from Release 1.1 to Release 5.1.

If you are upgrading an Avaya MAS, do not use the procedure in this chapter. See Upgrading Modular Messaging software on an Avaya MAS on page 119

If you are changing the switch integration, perform the procedure before or after you complete the upgrade process. For more information on how to change the switch integration, see Changing switch integration on page 259.

CAUTION:

If you are upgrading to Exchange 2007 or adding Exchange 2007 mail servers, complete the upgrade to Modular Messaging Release 5.1 before you begin the Exchange 2007 upgrade or additions. These are separate upgrade procedures and should not be completed concurrently.

Topics in this chapter include:

- Upgrade requirements on page 142
- Preparing for the upgrade from Release 3.x or Release 4.0 on page 143
- Performing pre-upgrade tasks on page 144
- Upgrading Modular Messaging software on page 153
- Completing server setup on page 158
- Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade on page 160
- Converting Supplementary server to run a 0 port MAS on the Supplementary server on page 257
- Changing switch integration on page 259

Upgrade requirements

To successfully upgrade a system to Modular Messaging Release 5.1, you need:

- Release 5.1 of the Modular Messaging application software and documentation:
  - *Avaya Modular Messaging Messaging Application Server Software* media
  - *Avaya Modular Messaging Documentation* media
- The planning forms or DCT file used to install the existing Modular Messaging system.
- The following information and software from the Avaya Support Web site at http://www.avaya.com/support. For more information about how to access these items on the Web site, see Downloading required software and documentation on page 3.
  - The latest copy of the configuration notes for this switch integration.
  - Avaya software updates that are required to bring the Avaya Modular Messaging software up to date after an upgrade. Download this software to a USB storage device.
  - The latest copy of the DCT executable file (**MMDCT.exe**). Download the file from the Avaya support site to a USB storage device.
  - The latest Modular Messaging Client software package.
- A printed copy of the upgrade checklist for a CPE MAS. See Modular Messaging upgrade on an Avaya MAS on page 226.
- You must obtain a new RFA license for your upgraded system. For additional information, see Obtaining and installing a license on MAS#1 on page 85.

CAUTION:

For an upgrade from Release 3.x to Release 5.1: Release 5.1 does not support the following TTS engines: DecTalk and TTS3000. If you were using either of these TTS engines, the upgrade automatically removes them and installs the ScanSoft RealSpeak TTS engine.

Prepare the server for the upgrade by running recommended disk checks. See Running recommended disk checks on page 149.

Preparing for the upgrade from Release 3.x or Release 4.0

Note:

A Modular Messaging software upgrade requires several server restarts. Plan to do the software upgrade during low-usage hours.

To upgrade the system to Modular Messaging Release 5.1:

1. Review the configuration notes for any changes that might be needed in the areas of board configuration, switch programming, and application configuration. For more information, see Upgrade requirements on page 142.
2. Complete pre-upgrade tasks to verify and save data, verify the DCT data file (*.mmdct), busy out ports, back up the MAS, run recommended disk checks, and stop and reset Modular Messaging services.

   Note:

   If you are replacing Brooktrout boards with new Dialogic port boards, replace the boards before you begin the software upgrade.
3. Upgrade software on each MAS including: RealSpeak software, Dialogic drivers, and Modular Messaging software. For more information, see Upgrading Modular Messaging software on page 153.
4. Complete server setup by deleting old logs files, administering anti-virus software, installing Modular Messaging software updates, updating Microsoft Windows, disabling the private LAN, and enabling ports.
5. Configuring new Release 5.1 features and verify that required services are running.

   Note:

   Completely upgrade and test one MAS first, and let it run for 15 minutes before upgrading any additional MASs.
6. Update the Modular Messaging Subscriber Administration extensions on each MAS and any other computer where Modular Messaging was previously installed (such as administrator machines or the Exchange server). Update client software on client machines where it was previously installed. See detailed steps in Chapter 3: Adding Exchange extensions for Modular Messaging on page 33 and Updating client software on page 244.

   Note:

   Schedule downtime for the Microsoft Exchange server if the Modular Messaging Subscriber Administration extensions must be updated.
7. Perform acceptance tests on the entire system. See Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade on page 160.
8. Back up the new data. See Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade on page 160.

CAUTION:

All servers must meet the requirements listed in the *Avaya Modular Messaging Concepts and Planning Guide*. Review this document to verify that all Exchange servers, directory servers, MASs, and client machines are ready to support Modular Messaging software.

Considerations for multiple-MAS upgrades

In a multiple-MAS configuration, Avaya strongly recommends that all MASs that are running Release 3.x or 4.0 software be upgraded to Modular Messaging Release 5.1 software as soon as possible. During an upgrade MASs in the same Voice Mail Domain can run different releases of Modular Messaging. However, at the completion of an upgrade, all MASs in the Voice Mail Domain must be running Release 5.1.

All MASs in the voice mail domain must be upgraded to the same release of Modular Messaging software before you can enable the new Release 5.1 features.

Switching the monitor to show the correct server

You must switch the display from one server to another during a system upgrade.

To show a different server on the monitor:

1. Gently press **Scroll Lock** twice and then press the up (or down) arrow key to change to the server connected to a higher (or lower) port number.

   Alternatively, type the port number using the keyboard. For example, type **1** for port 1.

2. If you cannot access the correct server, verify that the cable connections are correct. To correct cable problems, power down the system and correct the cable connections. Then turn on the system again.

For complete user and troubleshooting instructions, see the KVM switch documentation.

Performing pre-upgrade tasks

It is important that you record all critical system settings and back up all data in advance. Complete the following tasks to prepare the Modular Messaging system for an upgrade:

- Verifying and saving data on page 145
- Using the DCT to collect information from an MAS on page 146
- Busying out ports on page 148

- Backing up the MAS on page 149
- Running recommended disk checks on page 149
- Disabling hyper-threading on page 150
- Installing modem drivers on the CPE MAS on page 150
- Logging off all remote logins on page 150
- Stopping Modular Messaging services on page 150
- Installing Microsoft Windows prerequisite components on page 151
- Applying Microsoft Windows Server 2003 Service Pack 2 on page 151
- Updating Windows Internet Explorer 7 security on page 151

Verifying and saving data

Complete the following tasks before you start a Release 5.1 upgrade:

1. Verify key settings on the MAS, including:
   - Switch integration settings
   - Port board settings and extensions
   - Domain information
   - Basic system setup
   - Modular Messaging service account and group
   - Exchange settings

   Ensure that you record the following items:
   - Record the IP addresses for the MAS modems in the remote access service (RAS) group.
   - In the VMSC for each MAS, record any *non-default* port groups and their names, such as the MWI port group.
   - Record which Modular Messaging services are running on each MAS.
   - Record the SNMP trap destination and community details from the **Serviceability — Voice Mail Domain** window.
2. For a Release 3.0 only, complete the following steps to record all personal operator schedules. This information will be required to verify the schedules following the upgrade.
   a. Click **Start > Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration**.
   b. Under the voice mail domain name, double-click **Telephone User Interface**.
   c. Select the **Personal Operator Schedules** tab.

d. Click each schedule listed in the Schedules box and record the times set for each schedule.

e. Close all windows.

3. On the MAS, disable alarms:

a. Click **Start > Programs > Avaya Modular Messaging > Voice Mail System Configuration**.

b. Under the voice mail domain name, double-click **Serviceability**.

c. On the **Serviceability** page, on the **General** tab, select **Suppress alarm notifications**.

d. Close all windows

4. If you use this MAS to create, administer and deploy caller applications, back up all your working files to a location other than the MAS. Additionally, on the MAS you must have a current backup of the Caller Apps folder that contains the deployed caller applications that the MAS uses when it is running. For example, you might have a backup of C:\Program Files\Avaya Modular Messaging\vserver\callerapps. Make a copy of the entire callerapps directory.

5. Review the configuration notes for any changes that might be needed regarding board configuration, switch programming, and application configuration. Verify configuration and make necessary changes as part of the upgrade.

6. Make a complete backup of all caller applications, customized tone files, customized prompt files, licensing files, WSO files and SIP certificates for SIP implementations. Also back up the system state and spool. See Backing up the system on page 115 for information about where to locate these files on your system.

7. Check for errors or warnings on the system. Resolve major and minor alarms.

8. Use the time estimates to set customer expectations for the time required to complete the upgrade.

9. Review product functionality with the customer, including:

- Differences that will be noticeable to the customer
- Known issues; see Product Support Notices (PSNs) on the Avaya support website
- Rollout plan for new features
- Security concerns

Using the DCT to collect information from an MAS

Use the Avaya Modular Messaging Data Collection Tool (DCT) to collect information from each MAS and Supplementary server.

Always check the Avaya Support Web site at http://www.avaya.com/support to obtain the most recent version of the DCT program. Download the mmdct.exe file to a storage device and use it

instead of the one on the applications DVD. A DCT data file (*.mmdct) is not required for the upgrade. However, create a data file prior to the upgrade to save important system information for backup.

To create a DCT data file:

1. Verify that the Modular Messaging system is working properly. All MASs, the supplementary server, if present, and the Exchange message store must be running.
2. Switch the monitor to show MAS1. For more information, see Switching the monitor to show the correct server on page 144.
3. Log on using the customer account (for example, *mmacct*).
4. Verify that the messaging services on the MAS are running:
   a. Double-click the **Monitor** icon on the desktop or click **Start** > **Programs**> **Administration tools** > **Services**.
   b. In the left pane, click **Services (Local)**.
   c. In the right pane, scroll down to the list of Modular Messaging services. All services start with the abbreviation **MM**.
   d. Verify that the **Status** column shows that service is **Started** for each messaging service that belongs on this MAS.
   e. If service is not started for a required messaging service, right-click that **MM** service and select **Start**.
5. Insert the USB storage device with the DCT executable file (MMDCT.exe) into a USB port on MAS1. You can use any of the available USB ports.
6. Navigate to where you stored the executable file and double-click it.
7. On the **Select the DCT Configuration to use** screen, select **Analyze existing system**. Click **OK**.
8. When asked if you want to use an existing DCT data file (*.mmdct), click **No**.
9. On the **MM System Analysis** screen, select MAS#1 from the dropdown list at the bottom of the window. Click **Start**.

   The system displays the process of data collection. When analysis is complete, you see the message “information has been successfully collected,” The DCT displays the newly created DCT data file.
10. For a single-MAS upgrade, proceed to step 12. For a multiple-MAS system, save the DCT data file to a USB storage device.
11. For a multiple-MAS system, update the DCT data file with information from additional MASs:

    Note:

    Analyze all MASs in numeric order, first to last.

a. Insert the USB storage device with the DCT data file created for MAS#1 into the USB port on the next MAS that you are going to analyze.

b. Verify that the correct services are running on the MAS.

c. On the USB storage device, double-click **MMDCT.exe**.

d. On the **Select the DCT Configuration to use** screen, select **Analyze existing system**. Click **OK**.

e. When asked if you want to use an existing DCT data file, click **Yes**.

f. Navigate to where you saved the DCT data file that you created for MAS#1. Double-click it.

g. In the **MM System Analysis** window, choose the number of the MAS that you are analyzing from the dropdown list at the bottom of the window. Click **Start**.

The system displays the process of data collection. When analysis is complete, you see the message that information has been successfully collected. The DCT displays the newly updated file.

h. Save the DCT data file by overwriting the previous file.

CAUTION:

In multiple-MAS systems, review and revise the DCT data file after analyzing all MASs that are to be upgraded. Information that is manually entered before the final analysis might be overwritten in the analysis of subsequent MASs.

Do not change any data that was populated by the DCT system analysis.

12. Review the completed file. Enter information in empty fields if necessary.

Note:

Verify that there are no red Xs next to the screen names in the left panel. Red x's indicate data that is incomplete or not valid. Information must be complete and valid before you can proceed with the upgrade. The DCT does not populate all fields when analyzing a system. It will be necessary to enter information, for example, passwords

13. When all fields in the DCT are complete, click **Complete** at the bottom of the screen. *S*ave the file to a location where it will be included in the backup. A DCT data file is not required for the upgrade. However, create one prior to the upgrade to save important system information for backup.

Busying out ports

Busy out the ports on the MAS that you are upgrading and on the switch before you start the upgrade. Otherwise, messages will spool on the MAS, and add to the upgrade time.

To busy out the ports:

1. The PBX administrator must use the procedures appropriate for this PBX to busy out the ports. Depending on the switch integration, the administrator might be able to temporarily reroute calls to other MASs. If an MAS is unavailable, callers into the system might hear ring-no answer or a busy signal.
2. Switch the monitor to show the MAS.
3. Use the port monitor to disable the MAS ports:
   a. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Port Monitor**.
   b. In the **Port Monitor** window, hold down the **Shift** key or Control (**Ctrl**) key and click to select all the ports.
   c. Right-click the port list and select **Disable**.
   d. Verify that the status of all ports is **Disabled**.
   e. Click **OK** to close this window.

Backing up the MAS

Before beginning the software upgrade, make a current backup of the important system files, including any customized tone files and the DCT data file that you just created. For this procedure, see Backing up the system on page 115.

CAUTION:

If any MAS backup fails to complete, *Do not* proceed with the upgrade. Contact your remote support center for assistance.

Running recommended disk checks

Avaya recommends that the hard disk drive in the server be maintained to prevent possible problems. Run the two following procedures if they were not previously run in preparation for the upgrade. See Upgrade requirements on page 142.

- Disk Defragmenter system tool
- **chkdsk** command

Disabling hyper-threading

Important:

If you have CPE servers that support hyper-threading and that use IP H.323 switch integration, complete this task BEFORE doing anything with the Avaya Modular Messaging Configuration wizard.

Follow hardware-specific requirements to disable hyper-threading.

Installing modem drivers on the CPE MAS

For CPE MAS, the customer must install the drivers for serial adapters, serial port and the modem. Avaya does not take the responsibility of installing modems on the CPE MAS.

Logging off all remote logins

To log off all remote logins:

1. Log on to the MAS using an account that has administrative permissions.
2. Click **Start** > **Programs** > **Administration**.
3. Open your **Windows Task Manager** and select the **Users** tab.
4. Select remote logins and click **Logoff**.
5. If there are no remote logins, click **Cancel** to exit.

Stopping Modular Messaging services

Stop and reset all Modular Messaging (MM) services as follows:

Note:

If you have not already recorded the Modular Messaging services running on this MAS, do so now before stopping services.

1. Navigate to the **C:\Avaya_Support\tools\servicecontrol** directory.
2. Double-click the **StopMMServices.exe** file.

Installing Microsoft Windows prerequisite components

Complete the following steps to install Microsoft Windows prerequisite components on the MAS only if you are upgrading from Modular Messaging Release 3.0.

1. Insert the Microsoft Windows operating system installation disk in the MAS DVD drive.
2. Click **Start** > **Control Panel** > **Add or Remove Programs**.
3. In the **Add or Remove Programs** window, in the left column, click **Add/Remove Windows Components**.
4. In the **Windows Components Wizard** window, highlight **Application Server** and click **Details**.
5. Select the **Message Queuing** check box and press **OK**.
6. in the **Windows Components Wizard** window, select the **Fax Services** check box and click **Next**.
7. Select **Do Not Share Fax Printer** and click **Next**.
8. When installation is complete, click **Finish**.
9. Verify that fax service is **Started** and set to **Automatic**.

Applying Microsoft Windows Server 2003 Service Pack 2

All MASs in the Voice Mail Domain must be running Microsoft Windows Server 2003 Service Pack 2 for Modular Messaging Release 5.1. Install Microsoft Windows 2003 Service Pack 2 on this MAS. Check with the Windows administrator for site-specific procedures.

Updating Windows Internet Explorer 7 security

If your Avaya MAS has been upgraded to Internet Explorer 7 and if you are installing third-party software from a mapped network drive complete the following steps to update Explorer 7 security. If you do not make this update and you use a domain account to install third-party software, Windows will not allow the installation. This procedure is not necessary if you are installing third-party software from a disk or other removable media such as a USB storage device.

1. Map to the network drive where the third-party software resides.
2. Launch Windows Internet Explorer 7.
3. If a window appears that states Windows Internet Explorer Enhanced Security is enabled: click **OK**.

4. From the browser, select **Tools > Internet Options**.
5. On the **Internet Options** window, select the **Security** tab.
6. In the **Select a zone to view or change security settings** box, click **Local intranet**.
7. Click **Sites**.
8. On the **Local intranet** window, in the **Add this website to the zone** field, type the universal naming convention (UNC) path of your mapped network drive, using the format: \\<***computername***>\<***share***>. Click **Add**.
9. Click **OK** to close the Local intranet and Internet Options windows.

Upgrading Modular Messaging software

Use the following procedures to upgrade from Release 3.x or 4.0 to Release 5.1

- Upgrading Overnight on page 153
- Upgrading RealSpeak software on page 153
- Starting all Modular Messaging services on page 154
- Upgrading Dialogic drivers on page 154
- Upgrading MAS software on page 155

Upgrading Overnight

If you run the upgrade overnight, use the Voice Mail System Configuration application to disable the tracing database nightly tasks. After you complete the upgrade successfully, you must enable the scheduled tasks again when you perform the procedures in Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade on page 160.

Upgrading RealSpeak software

Complete the following tasks *only* if you are upgrading from Release 3.x.

This section describes how to update the RealSpeak driver and languages as part of a Release 5.1 software upgrade.

To upgrade RealSpeak software, complete the following steps:

1. Log on to the MAS using the account that was originally used to install RealSpeak software. If you do not know which account was used, complete the following steps:
   a. Log on as the customer account (for example, *mmacct*).
   b. Click **Start** > **Control Panel** > **Add or Remove Programs.**
   c. In the list of currently installed programs, look for the **RealSpeak** program. If it is in the list continue with step 2 to delete the program.
   d. If the program was not in the list, repeat steps a through c with different accounts until you locate the RealSpeak program.
2. Insert the *Avaya Modular Messaging Messaging Application Server Software* (DVD 2 of 2).
3. From the DVD, run the **RealSpeak\uninstallRealspeak.bat** file.
4. Reboot the MAS.
5. Log back on to the MAS using the account that was originally used to install RealSpeak software.
6. On the MAS, delete the folder **<*drive letter*>:\Program Files\ScanSoft**.

7. Verify that the *Avaya Modular Messaging Messaging Application Server Software* media (disk 2) is in the DVD drive of the MAS.
8. In the media's **Realspeak** directory, double-click the **installRSEngine.bat** file.
9. Complete the wizard, accepting all defaults and the license agreement.
10. On **Ready to Install the Program**, click **Install**.
11. When installation is complete, click **Finish**.
12. Click **Yes** to restart the server.
13. Log back on to the MAS using the customer account.
14. In the **Realspeak** directory, double-click the **installRSLangs.bat** file.
15. After the RealSpeak languages are installed, remove the *Avaya Modular Messaging Messaging Application Server Software*.

Starting all Modular Messaging services

Restart Modular Messaging services and verify that they are running:

1. Click **Start** > **Run** to open the **Run** window.
2. In the **Open** field, type the following and press **Enter**:

   C:\Avaya_Support\Scripts\serverrecovery.vbs

   The script takes a few seconds to run.
3. Verify that the services are set correctly.

Upgrading Dialogic drivers

Do this task on each MAS that contains Dialogic port boards.

Complete these steps on any MAS that contains Dialogic port boards to update the drivers.

1. Log on to the MAS using the customer account (for example *mmacct*).
2. Insert the *Avaya Modular Messaging Messaging Application Server Software* media (disk 1) in the DVD drive of the MAS.
3. Uninstall Dialogic drivers:
   a. In the media's **\Dialogic Drivers** directory, double-click the **MMDialogicUninstall.bat** file.
   b. On the Question window, click **No**.
   c. On the Confirm Uninstall window, click **OK**.
   d. On the Maintenance Complete window, select **Yes, I want to restart my computer now** and then click **Finish**.

4. Log on to the MAS using the customer account.

   The **Clean-up Utility** runs automatically.

5. On the Hardware Update Wizard, click **Cancel**.
6. Reinstall Dialogic drivers:
   a. In the media's **\Dialogic Drivers** directory, double-click the **MMDialogicUpgrade.bat** file.
   b. Complete the wizard, accepting all defaults.
   c. If a warning window about Java appears, click **OK**.

      A **Setup Status** window appears and installation begins.

      After the Dialogic files install, a **Found New Hardware** window appears.

   d. Select **No, not this time**, and click **Next**.
   e. Select **Install the software automatically**, and click **Next**.
   f. In the unsigned driver dialog box, click **Yes**.
   g. After the board is set up, click **Finish**.
   h. Repeat these steps for all Dialogic boards on this MAS.
   i. On the Setup Complete window, select Not to restart the computer and click **Finish**.
7. Restart the MAS and log on using the customer account.
8. From the media's **\Dialogic Drivers\mm_install** directory, double-click the **SetDialogicSettings.exe** file. This restores the Dialogic configuration to the MAS.
9. Start the Dialogic drivers:
   a. Click **Start** > **Programs** > **Intel Dialogic System Release** > **Configuration Manager - DCM**.

      The system displays the Intel Dialogic product **Configuration Manager** window.

   b. On the button bar, click the green **> (Start)** button.

      Wait for the devices to start and the installed boards to show a green light.

   c. Close the **DCM** window.
10. Reboot the MAS.

Upgrading MAS software

Note:

If anti-virus software is installed, Avaya recommends that you disable it while you upgrade the Modular Messaging software to prevent possible negative interactions. Enable the virus-checking software again after the upgrade is complete.

To upgrade the software on this MAS to Modular Messaging Release 5.1:

1. If you changed any logging settings before the upgrade, complete the following steps:
   a. Launch **c:\avaya_support\tools\MM_Logging\MMLogging.exe**.
   b. Record any values that you changed, such as **Log file size** and **Number of log files**.
2. Close all monitoring tools, such as the port monitor.
3. Log on to the MAS using the customer account (for example *mmacct*).
4. Insert the *Avaya Modular Messaging Messaging Application Server Software* media (disk 1 of 2) in the DVD drive of the MAS.
5. In the *Avaya Modular Messaging Messaging Application Server Software* media (disk 1 of 2) **Install** directory, double-click the **Setup.exe** file.

   The system launches the Avaya Modular Messaging Installation Wizard. All components that were previously installed on this machine, and the Diagnostic tools, are automatically selected. These selections cannot be changed. The currently installed version is displayed to the right of the specific tool or application. The version that is to be installed is displayed at the top of the page following the Avaya Modular Messaging title.

   a. Verify that the **Select Configuration** field displays **Microsoft Exchange**.
   b. For all upgrades check the following boxes:
      - **Enable Windows Installer logging**
      - **Fax Sender Server**
   c. For Release 3.x or Release 4.0 to Release 5.1 upgrades also select the following check boxes:
      - **MM Configuration Tools**
      - **Snapshot Utility**
      - **Web Subscriber Options User Interface**
      - Any additional components that are necessary for this MAS
   d. Click **Install**.
   e. Click **Run System Upgrade**.
   f. When prompted, click **Restart** to continue the upgrade.

      If the system fails to reboot, a message box appears.
   g. Click **Terminate the process**.
6. When the reboot is complete, log on as the Modular Messaging customer account (such as *mmacct*).

   The Installation Wizard starts automatically. If the wizard does not automatically start, double-click the **Setup.exe** file.

7. Follow prompts to remove service packs and patches as needed. Depending on the patch, if the system requests it, restart the server.

   The system upgrades the Modular Messaging software components. This step can take several minutes.

8. If prompted by the system, enter the password of the account used by Modular Messaging services.
9. Follow the installation Configuration Wizard prompts.

   The system upgrades the Modular Messaging software components. The components window shows which component is being installed. The system pauses for several minutes when installing the Avaya SPIRIT Agent. This is normal. Also, this step might take several minutes for a large database or a global address list (GAL).

10. If you installed Web Subscriber Options, follow the prompts to complete the installation wizard.
11. When the Installation Wizard flashes a warning that installation is not complete, restart the system and log back on as the Modular Messaging customer account (such as *mmacct*).

    The Installation Configuration Wizard runs automatically displaying the Service Configuration window.

12. When the update is complete, click **Finish**.
13. Remove the media from the DVD drive.
14. Verify the settings of the MM Services. If any are incorrect, reset them to the correct setting.
15. If you disabled the anti-virus software on this MAS, enable it again now.

Completing server setup

- Verifying anti-virus software on page 158
- Installing software updates on page 158
- Updating Microsoft Windows on page 159
- Enabling ports on page 159
- Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade on page 160
- Updating client software on page 244

Verifying anti-virus software

Avaya strongly recommends that anti-virus software be installed on any Microsoft Windows computer that runs Avaya Modular Messaging software. The type of virus-checking software used and the method of installation depends on customer requirements and the local implementation. Verify that the MAS is running the latest version of the anti-virus software. For additional guidelines for configuring anti-virus software, see Administering anti-virus software on page 48.

Installing software updates

A new Modular Messaging system ships with the most current software that is available at the time. However, the software must be updated after an upgrade to include the latest changes. The updates might be in the form of an Avaya Service Pack (SP) or a software patch (hot fix).

To determine if a Modular Messaging software update is needed:

1. Locate any relevant Avaya software updates on the Avaya Support Web site at http://www.avaya.com/support. For complete steps, see Obtaining software updates from the Web on page 307.

   Note:

   If you followed the procedure for Downloading software updates on page 4, you already downloaded any required software updates.

2. If the Modular Messaging system requires a software update, complete the update procedure now before you do acceptance testing. Follow the instructions in Appendix F: Updating Modular Messaging software on page 307 to update the system with the latest changes.

Updating Microsoft Windows

After an upgrade you must install the latest Microsoft Windows system updates, security patches, and hot fixes to protect the operating system from known security weaknesses. Check with the appropriate Windows administrator for the software update procedures to use at this site.

Note:

Avaya technical support representatives must follow their specified internal procedures for verifying the software that is installed. If required, they must update the software with the latest patches as instructed.

Enabling ports

Enable the ports on the MAS that you are upgrading.

Use the port monitor to enable the MAS ports:

1. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Port Monitor**.
2. In the **Port Monitor** window, hold down the **Shift** key or Control (**Ctrl**) key and click to select all the ports.
3. Right-click the port list and select **Enable**.
4. Verify that the status of all ports is **Enabled**.
5. Close the **Port Monitor** window

Completing the Release 3.x or Release 4.0 to Release 5.1 upgrade

This section describes the topics required to complete the upgrade of Modular Messaging system to Release 5.1.

Continue the Modular Messaging software upgrade as apprpriate:

1. If you have more than one MAS:
   a. ***For the first MAS upgraded only,*** let the Modular Messaging software run for 15 minutes. Return to Switching the monitor to show the correct server on page 144 to begin upgrading the next MAS.
   b. Repeat the Modular Messaging software upgrade procedure until all MASs are upgraded.

   CAUTION:
   Perform steps 2 and 3 only if you are upgrading from Modular Messaging Release 3.x to Release 5.1.
2. Enable and configure MM Fax Service. If this MAS is to run the MM Fax Sender Service, complete the following steps:
   a. Navigate to the **C:\Avaya_Support\Utils** directory.
   b. Double-click the **FaxSenderEnable.exe** file.
   c. Restart Microsoft Windows Fax Service.
   d. Configure MM Fax Service by completing the steps described in Configuring the MM Fax Sender server on page 91.

   Note:
   Fax Sender Service running with a QSIG T1 or QSIG E1 integration requires the D480JCT-1T1, D/600JCT-1E1 or D/600JCT-2E1 dual span QSIG board. If run with the D/240JCT-T1 or D/300JCT-1E1 board, you must upgrade your board before the system can run the Fax Sender Service. The dual span QSIG boards also require configuration of the **FirmwareFile 2** parameter on the **Intel Dialogic product Configuration Manager - Properties** window. For more information, see Configuring T1-QSIG or E1-QSIG boards on page 296.
3. Configure Audit service by completing the steps described in Configuring Audit Service on page 91.
4. Configure and activate additional new Release 5.1 features as needed using the Voice Mail System Configuration program.
5. Enable all scheduled tasks that you disabled before starting the upgrade.

6. Update the Modular Messaging Active Directory Exchange extensions on machines where they are installed. See Chapter 3: Adding Exchange extensions for Modular Messaging on page 33.

   Note:

   The Modular Messaging Active Directory Exchange extensions are updated along with other Modular Messaging software that is installed on this machine (multiple Modular Messaging software component check boxes might be selected). This ensures that all currently installed components are upgraded. The components are installed in the correct order when you click **Install**.

7. Update the client software on non-MAS machines where it is installed. See Updating client software on page 244.
8. When finished with each MAS, verify that the MAS disk is in good condition by running the following:
   - Disk Defragmenter system tool
   - **chkdsk** command
9. Do the acceptance tests that are appropriate for each server; see Performing acceptance tests on page 108. For example:
   a. For an MAS, test to check if the server can send and receive calls.
   b. For all servers, verify that the services run on the appropriate server.
10. Run a DCT analyze on the system; see Using the DCT to collect information from an MAS on page 146.

    CAUTION:

    Perform step 11 only if you are upgrading from Modular Messaging Release 3.0 to Release 5.1.

11. Complete the following steps to verify all Personal Operator Schedules:
    a. Click **Start > Programs > Avaya Modular Messaging > Voice Mail System Configuration**.
    b. Under the voice mail domain name, double-click **Telephone User Interface**.
    c. Select the **Personal Operator Schedules** tab.
    d. Verify that all Personal Operator Schedules recorded before the upgrade are included in the list. If a schedule is missing, complete the following steps:
       1. Click the **Add** button
       2. In the **Enter Personal Operator Schedule Name** dialog box in the **Schedule Name** field, enter the name of the missing schedule.
       3. Click **OK** to return to the Personal Operator Schedules tab.
       4. In the schedule grid, enter the schedule times.

e. Click each Personal Operator Schedule in the schedule list and verify that the schedule times correspond to the times recorded before the upgrade. Correct discrepancies in the schedule grid.

f. Close all windows.

12. Review event and alarm logs and resolve problems; obtain the *Avaya Modular Messaging MAS Administration Guide*; see Downloading user documentation on page 5.

13. Run backups on each MAS; see Backing up the MAS on page 149.

14. Perform this step *only* if you are upgrading from Release 3.x. Due to a change in file names, old logs might remain on the system. Remove old logs from ***c:\avaya_support\logs*** folder on each MAS and delete logs that are older than the upgrade's start time.

15. On the MAS, enable alarms:

    a. Configure the SNMP trap destination and community details using the **Serviceability - Voice Mail Domain** window of the Voice Mail System Configuration program. Enter the SNMP trap destination and community information you recorded before beginning the upgrade.

    b. Click **Start > Programs > Avaya Modular Messaging > Voice Mail System Configuration**.

    c. Under the voice mail domain name, double-click **Serviceability**.

    d. On the **Serviceability** page, on the **General** tab, clear the **Suppress alarm notifications** check box, to turn on the alarm notifications options.

    e. Click **Save** to save the changes.

    f. Close all windows.

16. If you are adding a new MAS to this system, begin the installation now.

For post-install procedure of. the MAS,
see Post-installation procedures for Modular Messaging on page 243.

Chapter 10: Migrating to Modular Messaging Release 5.1 on an Avaya MAS

The chapter describes how to migrate from Modular Messaging Release 1.1, Release 3.0, Release 3.1, or Release 4.0 running on an S3400 or an S3500 server to a Modular Messaging Release 5.1 system that runs on an S8730-family server.

The migration consists of adding aditional servers to the customers network where the newly added servers works along side the existing servers until the old ones are removed. Because, the servers have unique names, it is necessary to update the user clients with the new data.

You can reduce the number of MASs in your VMD when migrating from Avaya S3400 servers to Avaya S8730 servers. If you are going to reduce the number of servers, do so before migrating the remaining servers to Release 5.1. See Reducing the number of servers on page 182 for more information.

Topics in this chapter include:

- Migration requirements on page 163
- Preparing for the migration on page 165
- Verifying and Saving Data on page 167
- Backing up the MAS on page 168
- Analyzing the existing system on page 167
- Configuring the new Avaya S8730 server on page 169
- Completing the server setup on page 175
- Configuring MAS port boards on page 179
- Disabling the Avaya S3400/S3500 servers on page 180
- Completing the migration on page 181
- Reducing the number of servers on page 182

Migration requirements

To successfully migrate a Modular Messaging system:

- You need a replacement server with preloaded Avaya Modular Messaging Application Server (MAS) and boot software.

- Before you migrate the MASs, the domain administrator must create a computer account for the new server. See Creating MAS computer accounts on page 26 for more information.
- Download the *Avaya Modular Messaging Documentation* from the http://www.avaya.com/support.
- All account names and passwords must conform to Windows 2003 security rules. If your account names and passwords do not conform to the new rules, you must change them before you analyze your system with the DCT executable file (**MMDCT.exe**). If you must change your Modular Messaging account names or passwords, contact your support organization for more information.
- Planning forms for the system that runs on Release 1.1 and Release 3.x or the original DCT file for a system that runs on Release 4.0.
- Microsoft Exchange Server MAPI Client for a system with Microsoft Exchange 2007 mail servers. Download the MAPI client from the following site:

  http://www.microsoft.com/downloads/details.aspx?FamilyID=e17e7f31-079a-43a9-bff2-0a110307611e&DisplayLang=en.
- The following information and software from the Avaya Support Web site at http://www.avaya.com/support. For more information about how to access these items on the Web site, see Downloading required software and documentation on page 3.
  - The latest copy of the configuration notes for this switch integration.
  - Any Avaya software updates and third-party software required to bring the Avaya Modular Messaging software up to date after the migration is complete. Download this software to a USB storage device such as a flash drive, memory stick, or equivalent.
  - The latest version of MMDCT.exe.
- Print the migration checklist from Appendix A: Installation, upgrade, and migration checklists on page 215. Use the checklist to track your progress.
- You must obtain a new RFA license for your migrated system. For additional information, see Obtaining and installing a license on MAS#1 on page 85.
- Customer-provided Microsoft Exchange System Management Tools. For more information, see Installing third-party software on page 172.
  - For a system with Exchange 2007 mail servers, you will require the 32-bit version of the Exchange 2007 Management Tools, Microsoft Exchange 2007 Service Pack 1, and additional software downloads. You may download the 32-bit version of the Exchange 2007 Management tools from:

    http://www.microsoft.com/downloads/details.aspx?FamilyID=444C259E-605F-4A82-96D5-A2F448C9D4FF&displaylang=en
  - For a system with Exchange 2003 mail servers, you will require Microsoft Exchange Service Pack 2 for Exchange 2003 System Management Tools, and additional software downloads.

Preparing for the migration

This section describes how to prepare the Modular Messaging system that runs on an S3400 or an S3500 server to migrate to Modular Messaging Release 5.1 running on an Avaya S8730 server.

When migrating from an S3400 hardware, you may reduce the number of MASs in your VMD. For complete procedures to reduce MASs, see Reducing the number of servers on page 182.

To migrate the system to Modular Messaging Release 5.1:

1. Review the configuration notes for any changes that might be needed in the areas of board configuration, switch programming, and application configuration. For more information, see Migration requirements on page 163.
2. Use the DCT to analyze the existing servers. If you are reducing the number of servers, include the servers that are being removed from the VMD.

   Note:

   Also, include the Supplementary server, if present.
3. Verify and save the data on the MAS that is being replaced.
4. Back up the MAS that is being replaced.
5. Add the new S8730 MAS to the system using the DCT data file created by the system analysis.
6. Complete setup of the new Avaya S8730 server by administering anti-virus software, installing software updates, updating Windows, changing LAN name and power management settings, and entering RAS IP addresses on the MAS.
7. Configure port boards on the new Avaya S8730 server, if the system uses a switch integration that is not automatically configured by the **MMCW**.
8. Disable Modular Messaging services on the server that is being replaced.
9. Move the disabled services to the new Avaya S8730 server and enable them.
10. Restore customer data to the new Avaya S8730 server.
11. Configure new Release 5.1 features and verify that required services are running.
12. Update Exchange extensions and client software on client machines where it was previously installed. See detailed steps in Chapter 3: Adding Exchange extensions for Modular Messaging on page 33 and Updating client software on page 244.

    Note:

    Schedule downtime for the Exchange Server if the Modular Messaging Subscriber Administration components need to be upgraded on the Exchange server and if the Exhcnage server prompts you for a restart.
13. Test and back up the new S8730 server. See Completing the migration on page 181.

14. Remove the server that is being replaced from the system.

Considerations for multiple-MAS migration

In a multiple-MAS configuration, Avaya strongly recommends that all MASs be migrated to Modular Messaging Release 5.1 software as soon as possible. During a migration, MASs in the same Voice Mail Domain can run different releases of Modular Messaging. However, at the completion of a migration, all MASs in the Voice Mail Domain must be running Release 5.1.

All MASs in the voice mail domain must be migrated to the same release of Modular Messaging software before you can enable the new Release 5.1 features.

If you are adding a new Modular Messaging machine to a multiple-MAS configuration, it cannot join an existing VMD that only has Release 1.1, Release 3.1, or Release 4.0 MAS servers in it. You need to migrate all other servers in your VMD to Release 5.1 before you can add the new server.

Analyzing the existing system

Analyze the existing system by using the Avaya Modular Messaging Data Collection Tool (DCT) to collect information from each MAS and Supplementary server. See Using the DCT to collect information from an MAS on page 125 for more information.

Verifying and Saving Data

It is important that you record all critical system settings and back up all data in advance. Complete the following tasks before you start a Release 5.1 migration:

1. Verify key settings on the MAS, including:
   - Switch integration settings
   - Port board settings and extensions
   - Domain information
   - Basic system setup
   - Modular Messaging service account and group
   - Exchange settings

   Make sure that you record the following items:
   - Under **Routing and Remote Access**, record the IP addresses for the MAS modems in the remote access service (RAS) group.
   - In the VMSC for each MAS, record any *non-default* port groups and their names, such as the MWI port group.
   - Record which Modular Messaging services are running on each MAS.
   - SNMP trap destination and community details from the **Serviceability — Voice Mail Domain** window.
2. Complete the following steps to record all personal operator schedules. This information will be required to verify the schedules following the upgrade.
   a. Click **Start > Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration**.
   b. Under the voice mail domain name, double-click **Telephone User Interface**.
   c. Select the **Attendant Schedules** tab.

d. Click each schedule listed in the Schedules box and record the times set for each schedule.

e. Close all windows.

3. If you use this MAS to create, administer, and deploy caller applications, back up all your working files to a location other than the MAS. Make a copy of the entire callerapps directory. The entire folder and its structure must be restored.
4. Make a complete backup of all customized tone files, customized prompt files, licensing files, WSO files and SIP certificates for SIP implementations. Also back up the system state and spool. See Backing up the system on page 115 for information about where to locate these files on your system.
5. Check for errors or warnings on the system. Resolve major and minor alarms.
6. Review product functionality with the customer, including:
   - Differences that will be noticeable to the customer
   - Known issues; see Product Support Notices (PSNs) on the Avaya support website
   - Rollout plan for new features
   - Security concerns

Backing up the MAS

Before beginning the migration, make a current backup of the important system files on the server that is being replaced, including any customized tone files. Also, back up the DCT data file that you just created. For this procedure, see Backing up the system on page 115.

Configuring the new Avaya S8730 server

You must add the new Avaya S8730 server to the system by completing the following steps:

- Adding the new Avaya S8730 server on page 169
- Installing third-party software on page 172
- Completing the MMCW configuration on page 173

Adding the new Avaya S8730 server

After the server boots, the Avaya Modular Messaging Configuration wizard runs automatically.

Note:

Before you turn on the server you want to configure, insert the storage device. The server can easily recognize the storage device if the device is already inserted when the server boots.

To configure the new server:

1. On the **Welcome** screen, click **Next**.
2. On the **Locate Configuration Data** screen, click **Browse**.
   a. In the **Open** window, click the drop-down list next to **Look in**.
   b. Navigate to the storage device, **Removable disc (E:)**.

      If the server fails to recognize the storage device, you can:

      1. In the **Open** window, click **My Computer** in the left pane. After the Look in field shows **My Computer**, press **F5** to refresh the screen.
      2. If the storage device still fails to appear, remove and then insert the device again.

   c. Double-click the most current data file on the storage device, such as *sitefile.mmdct*.
3. On the **Locate Configuration Data** screen, click **Next**.
4. When the system prompts you to confirm the data file, click **Yes**.

   The **Avaya Modular Messaging Data Collection Tool** window opens.
5. Update the following screens:
   a. Navigate through the first few screens and verify the data. Click **Next** on each screen.
   b. Under **MM servers**, click **Message store**. On the system **Message store** screen, select server with **Avaya MAS servers**.

c. Under **MM servers**, click **Voice Mail Domain**. On the system **Voice Mail Domain** screen complete the following:

   1. Update the Number of MASs in the VMD by increasing the number of MASs by 1 to include the MAS you are adding.
   2. The system displays a warning that you are changing the number of MAS servers in the Voice Mail Domain. You must analyze the system at the end of this procedure to make sure that the data file reflects the changes you make. Click **OK**.
   3. Click **Next**.

d. Under **Networking**, click **Corporate server networking details**. The system displays **Corporate server networking** details screen.

   - Enter the values in the **Full Computer Name** field and the **IP address** field for the server that you are adding. The values entered should be unique, since it will be in service at the same time as the old server.

e. Under **Accounts and passwords**, click **MAS accounts and passwords**. The system displays MAS accounts and passwords screen.

   - Enter the Local administrator account details in the **Logon name** and the **Password** fields for each MAS and Supplementary server.

f. If the server is to run the Messaging Application Server service and handle calls, then in **TTS sessions and languages**, click **TTS and announcements**. The system displays **TTS and announcements** screen.

   - Select required announcement and TTS languages. Also enter the TTS sessions for each MAS.

g. In **MAS servers**, click **MM service selection**. The system displays **MM service selection** screen.

   CAUTION:

   Do not attempt to move services using this screen! Leave all the Modular Messaging services set exactly as they are. Do not move services from one column to another, or you will damage the operation of the system.

   - For an MAS, select *only* the **Message Application** check box. Leave all other services set as they are.
   - For a supplementary server, *do not* select the **Message Application** check box. Do not select any other services. Leave the **MAS** column for the new server blank.

h. Click **Save**.

6. Save the updated data file to the storage device:

   a. When the system prompts you to save the file, click **Yes**.

   b. In the **Save As** window, navigate to the storage device.

   c. Type the name of the data file in the **File name** field, such as *sitefile*.

d. Leave the file type set as *.mmdct*.

e. Click **Save**.

f. If the system prompts you to replace an existing data file, click **Yes**.

7. To continue the configuration process, click **Complete**.

   The system automatically saves the updated data file to the ***C:\Program Files\Avaya Modular Messaging\Install\MISCM\cfg*** directory on the new server.

   The system returns you to the Avaya Modular Messaging Configuration Wizard.

8. On the **Messaging Application Server Number** screen:

   a. Change the **MAS number** field to show the correct number for this server.

   b. Click **Next**.

   The **Configuring System** screen shows the MAS configuration starting. The **Sysprep** window opens. The server then reboots.

9. After the reboot starts, a Windows Setup wizard runs. To complete the wizard:

   a. On the **License Agreement** screen, select **I accept this agreement**. Click **Next**.

   b. On the **Your Product Key** screen, type the Windows product key for this server.

      - Each Windows computer has a unique product key for the Windows 2003 R2 operating system. Enter the number exactly as shown.
      - On a new S8730 server, the product key sticker is located on the right hand edge of the server chassis.

   c. Click **Next**.

   The Avaya Modular Messaging Configuration Wizard displays the configuration status. The server reboots several times, but you do not need to log on manually. The entire process takes about 25 minutes.

10. When the server configuration is complete, the progress bar stretches across the screen and the **Next** button becomes active. Click **Next**.

11. On the **Avaya Modular Messaging Wizard Completed** screen, click **Finish**.

12. After the reboot starts, a **Windows Setup** wizard runs. To complete the wizard:

    a. On the **License Agreement screen**, select **I accept this agreement**. Click **Next**.

    b. On the **Your Product Key** screen, type the Windows product key for this server.

       Each Windows computer has a unique product key for the Windows 2003 R2 operating system. Enter the exact number.

    c. Click **Next**.

       The Avaya Modular Messaging Configuration Wizard displays its configuration status on the **Configuring System** screen.

13. You need to complete the following procedure, when prompted to install third-party software.

Installing third-party software

To install third party software, perform the following:

- If you are installing third-party software from a mapped network drive, update Windows Internet Explorer 7 security. See Updating Windows Internet Explorer 7 security on page 172.
- For Exchange 2007, see Installing third-party software for Exchange 2007 on page 172
- For Exchange 2003, see Installing third-party software for Exchange 2003 on page 173

Updating Windows Internet Explorer 7 security

If you are installing third-party software from a mapped network drive, complete the following steps to update Internet Explorer 7 security. If you do not make this update and you use a domain account to install third-party software, Windows will not allow the installation. This procedure is not necessary if you are installing third-party software from a disk or other removable media such as a USB storage device.

1. Map to the network drive where the third-party software resides.
2. Launch Windows Internet Explorer 7.
3. If a window appears that states Windows Internet Explorer Enhanced Security is enabled: click **OK**.
4. From the browser, select **Tools > Internet Options**.
5. On the **Internet Options** window, select the **Security** tab.
6. In the **Select a zone to view or change security settings** box, click **Local intranet**.
7. Click **Sites**.
8. On the **Local intranet** window, in the **Add this website to the zone** field, type the universal naming convention (UNC) path of your mapped network drive, using the format: \\<***computername***>\<***share***>. Click **Add**.
9. Click **OK** to close the Local intranet and Internet Options windows.

Installing third-party software for Exchange 2007

Use the procedures in this section to install third-party software when installing Modular Messaging with an Exchange 2007 peer mail server.

When prompted to install third-party software:

1. Install the MAPI client by double-clicking the MAPI executable file.
2. Install Microsoft Exchange 2007 Management Tools:
   a. Double-click the tools executable file.
   b. Double-click the extracted Microsoft Exchange Installation wizard.
   c. Complete the Microsoft Exchange Installation Wizard selecting **Custom Exchange Server Installation**. Elect to install the **Management Tools**. For details about this procedure, see the Microsoft Exchange documentation.

   You may be prompted to download and install additional components and hotfixes. Follow the installation prompts. Be sure to download the Windows 2003 32-bit version of each component.
3. If prompted, reboot the system.
4. Verify that the Exchange Management Tools can communicate with the Exchange 2007 mail server.
5. Follow site-specific procedures to install Microsoft Exchange Server 2007 Service Pack 1.
6. Install antivirus software.see Administering anti-virus software on page 48.
7. After installing third-party software, continue with Completing the MMCW configuration on page 173.

Installing third-party software for Exchange 2003

When prompted to install third-party software:

1. Insert the customer-provided Microsoft Exchange Server media in the MAS drive.
2. Install the management tools by completing the Microsoft Exchange Installation Wizard.
3. If you receive a compatibility warning, click **Continue**.
4. For details about this procedure, see the Microsoft Exchange documentation.
5. Install Microsoft Exchange Service Pack 2 and additional software downloads.
6. Installing anti-virus software. See Administering anti-virus software on page 48.

Completing the MMCW configuration

After third-party software is installed, continue with the following steps to complete the configuration:

1. Verify that the *Avaya Modular Messaging Messaging Application Server Software* media is in the MAS DVD drive.

2. In the third-party dialog box, click **Continue with installation after installing 3rd-party software** on the 3rd-party dialog box. The MMCW resumes with the following sequence of events:
   - The **Setup** screen displays, followed by the **System Upgrade** screen.
   - The system reboots and logs on without user intervention.
   - MMCW restarts automatically and runs the MM Application Setup, installing all Modular Messaging components.
   - After another reboot and auto log on, the MMCW continues the system configuration, displaying informational messages, as each component, such as dialogic drivers or remote access is configured.
3. When MAS configuration is complete, the progress bar stretches across the window and the Next button becomes active. Click **Next**.
4. On the **WSO configuration** screen, click **Finish**.
5. To complete setup of the Modular Messaging server, proceed to Completing the server setup on page 175.

Completing the server setup

This section describes how to update and protect the new server. To prepare a new server, follow these procedures:

- Installing software updates on page 175
- Updating Microsoft Windows on page 175
- Changing LAN settings on page 176
- Entering RAS IP addresses on each MAS on page 177

Installing software updates

The Modular Messaging Release 5.1 software is the most current version available at the time of release. However, you need to update the software after a migration to include the latest changes. Avaya provides these updates in the form of an Avaya Service Pack (SP) or a software patch.

To determine if a Modular Messaging software update is needed:

1. Locate any relevant Avaya software updates on the Avaya Support Web site at http://www.avaya.com/support. For complete steps, see Obtaining software updates from the Web on page 307.

   Note:

   If you followed the procedure for Downloading software updates on page 4, you would have already downloaded any required software updates.

If the Modular Messaging system requires a software update, do the update procedure now, before you do acceptance testing. Use the instructions in Appendix F: Updating Modular Messaging software on page 307 to update the system with the latest changes.

Updating Microsoft Windows

A new Avaya MAS contains the most current Microsoft Windows software at the time it is shipped. After a migration, you must install the latest updates for Microsoft Windows, including operating system updates and security patches. These software updates protect the system from known security weaknesses. Check with the appropriate Windows administrator for the software update procedures to use at this site.

Note:

Avaya technical support representatives must follow the specified internal procedures to verify the software that is installed. If required, the support representative must update the software with the latest patches as instructed.

Changing LAN settings

- Changing LAN name and Power Management settings on page 176
- Disabling the private LAN on page 176

Changing LAN name and Power Management settings

Rename the corporate LAN connection for this MAS so that it is easier to identify and change the LAN power management settings. Complete the following steps:

1. . Click **Start > Settings > Network Connections**.

   The **Network Connections** window opens.

2. Identify the corporate LAN on this server. This LAN has device name **Intel(R) PRO/1000 CT Network Connection**. The corporate LAN is labelled **Local Area Connection**.

   Rename this item as follows:

   a. Right-click the text **Local Area Connection** and select **Rename**.

   b. Change the name to **Corporate LAN**.

3. Change the Power Management settings for the LAN connection:

   a. Right-click the LAN connection and select **Properties**.

   b. Click **Configure**.

   c. Click the **Power Management** tab.

   d. Clear the **Allow the computer to turn off this device to save power** check box.

4. Close any LAN-connection windows.

Disabling the private LAN

The Modular Messaging private LAN is not used with Microsoft Exchange configurations. Disable the private LAN by completing the following steps:

1. In the **Network Connections** window, highlight either **Intel(R) PRO/1000 CT Network Connection**, or **Intel(R) PRO100M Network,** whichever appears in the window. Right-click your selection. From the drop-down list, select **disable**.

2. In the **Network Connections** window, from the toolbar menu, select **Advanced** > **Advanced Settings**. Verify that the corporate LAN is listed at the top of the list of

connections. If not, highlight the name of the corporate LAN and use the arrows to move it up in the list. When finished, close the **Advanced Settings** and **Network Connections** windows.

Entering RAS IP addresses on each MAS

The Avaya Modular Messaging Configuration Wizard automatically sets up inbound remote access to each MAS modem. You must edit the preprogrammed RAS IP addresses to use the addresses that the technical support organization requires.

CAUTION:

If Avaya is to support this system, you must enter the RAS IP addresses assigned by the Avaya Automatic Registration Tool (ART). Otherwise remote access for Avaya technical support will not work.

Complete the following steps for each MAS to set up the IP addresses on MAS to allow remote access:

1. Double-click the **Configure** icon on the desktop.
2. In the left pane of the **Configure** window, expand **Routing and Remote Access**.
3. Expand the server name.
4. Verify authentication:
   a. Highlight **Remote Access Policies**.
   b. On the right pane, double-click **Connections to Microsoft routing and remote access**.
   c. Click the **Edit Profile..** button.
   d. Select the **Authentication** tab.
   e. Make sure that all check boxes (except for the **Unauthenticated access** check box) are selected. If necessary, clear the **Unauthenticated access** check box.
   f. Click **OK**.
   g. If a dialog box appears, click **No**.
   h. Click **OK**.
5. Right-click the server name from the pop-up menu and select **Properties**.
6. Set up PAP security:
   a. In the **Local Properties** window, click the **Security** tab.
   b. Click **Authentication Methods...**
   c. Select **Unencrypted Password (PAP)**.
   d. Verify that all other check boxes are blank. If necessary, clear the check boxes.

e. Click **OK**.

7. Set up a static IP address pool as follows:
   a. In the local **Properties** window, click the **IP** tab.
   b. Under **IP address assignment**, select **Static address pool**.
   c. Add or edit the address range as follows:
      - If the window shows an incorrect IP address range, select the displayed range and click **Edit**.

      CAUTION:
      If Avaya Modular Messaging is to support this MAS, do not use the preprogrammed IP addresses. You must Edit and Remove these addresses for remote access to work.

      - If no address range is already entered, click **Add**.
   d. In the **Address Range** dialog box, enter the correct start and end IP addresses for this server.To get the start and end IP addresses, you *must* register your system.
   e. Verify that the number of addresses is **2**.
   f. Click **OK**.
   g. In the **Adapter** field, select **Allow RAS to select adapter**.
   h. Click **OK** to close the **Properties** window.
   i. If a dialog box appears, click **No**.
   j. Close the **Configure** window.

Configuring MAS port boards

Important:

If this MAS does not contain Dialogic port boards, skip the rest of this section and continue with Chapter 6: Configuring the voice mail system on page 77.

The Avaya Modular Messaging Configuration Wizard automatically configures the dialogic port boards for the following switch integrations:

- Avaya (QSIG)
- Cisco (QSIG)
- Nortel NT M-1 (QSIG)
- Siemens Hipath (QSIG)

If this MAS does *not* use one of the automatic-configuration switch integrations, you must configure the Dialogic port boards manually.

1. Continue with Appendix E: Configuring and testing port boards on page 293.
2. After you configure and test the Dialogic port boards, continue with Chapter 6: Configuring the voice mail system on page 77.

Disabling the Avaya S3400/S3500 servers

You need to disable the Avaya S3400 or S3500 server that is being replaced.

To disable the servers:

- Busying out ports on page 180
- Logging off all remote logins on page 180
- Disabling services on page 181

Busying out ports

Busy out the ports on the MAS that you are replacing and on the switch.

To busy out the ports:

1. The PBX administrator must use the procedures appropriate for this PBX to busy out the ports. Depending on the switch integration, the administrator might be able to temporarily reroute calls to other MASs. If an MAS is unavailable, callers into the system might hear ring-no answer or a busy signal.
2. Use the port monitor to disable the MAS ports:
   a. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Port Monitor**.
   b. In the **Port Monitor** window, hold down the **Shift** key or Control (**Ctrl**) key and click to select all the ports.
   c. Right-click the port list and select **Disable**.
   d. Verify that the status of all ports is **Disabled**.
3. Click **OK** to close this window.

Logging off all remote logins

To log off all remote logins:

1. Log on to the MAS using an account that has administrative permissions.
2. Click **Start** > **Programs** > **Administration**.
3. Open your **Windows Task Manager** and select the **Users** tab.
4. Select remote logins and click **Logoff**.
5. If there are no remote logins, click **Cancel** to exit.

Disabling services

You need to disable the services on the servers you are removing from the existing system. See Disabling Modular Messaging services you plan to move on page 245 for more information.

Completing the migration

To complete the migration of the server you need to:

- Move the services from the server that is being replaced to the new Avaya S8730 server. See Moving Modular Messaging services among servers on page 247 for more information.
- Restore the customer data, see Restoring the Avaya MAS on page 320.

  Note:

  However, you need not restore the caller app as it is already restored during the installation of the new Modular Messaging system on the VMD.

  For more information, refer to the *Avaya Modular Messaging Documentation* media.
- Test the Modular Messaging system. For more information, see Chapter 7: Testing and backing up the system on page 103.

  CAUTION:

  Continue with the next step only if the new system has been completely tested and signed off by the customer.
- Remove the S3400 or S3500 server that you are replacing from the VMD. To remove the servers:

  1. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration** to open the **VMSC window**.
  2. In the **VMSC** window, double-click **Message Application Servers**.
  3. Right-click the name of the server you are removing. Click **Remove**.
- Remove the Modular Messaging components from the server. For more information, see Appendix I: Removing Modular Messaging components from an MAS on page 331.
- Power off the server you are removing.
- You need to repeat the procedure from Verifying and Saving Data on page 167 for each MAS you need to migrate.

Reducing the number of servers

This migration scenario describes how to reduce the number of MASs in your VMD by consolidating into fewer S3400 servers in preparation for a migration to S8730 servers.

Note:

Use this procedure *only* to reduce the number of S3400 MASs.

The modular Messaging system in this example has four S3400-family server MASs, each running 23 ports of T1 QSIG. You are upgrading to Release 5.1 so the customer is required to use the S8730-family servers. Since an S8730 server has more port capacity, you need only two S8730 servers, each running 46 ports of T1 QSIG.

Note:

The current system must be in a like-for-like state prior to the migration in terms of the number of MASs, boards, and port configurations or the migration will fail. Which means you must consolidate and configure the T1 QSIG port boards into two MASs for the current S3400-family servers.

1. Move and configure the T1 QSIG port boards:
   a. Move the T1 QSIG board from S3400 MAS#3 to S3400 MAS#1.
   b. Configure the boards using DCM; see Configuring port boards on page 295.
   c. Double-click the **Monitor** icon on the DCM.
   d. Click **Services (Local)** in the left pane, if the item is not already selected.
   e. In the right pane, scroll down to **MM Messaging Application Server**.
   f. Right-click **MM Messaging Application Server** and select **Start**.
   g. Using VMSC, increase the number of ports in S3400 MAS#1 to 46 and allocate the ports to the required port groups.
   h. Restart the Message Application service on the S3400 MAS#1.
   i. Repeat this process to move the T1 QSIG board from S3400 MAS#4 to S3400 MAS#2.
   j. Confirm that all of the ports in each server are working properly before continuing.
2. Remove MAS#3 and MAS#4 from the VMD:
   a. Sign onto MAS#3 as **mmacct**.
   b. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration** to open the **VMSC** window.
   c. In the **VMSC** window, double-click **Message Application Servers**.
   d. Right-click MAS#3 and from the pop-up menu, click **Remove**.
   e. Repeat this process for MAS#4.

f. Shutdown the MAS#3 and MAS#4 S3400-family servers.

CAUTION:

Do not use the DCT to move services from one MAS to another during the migration! Moving services might require changes elsewhere in the system, such as on the message store and in the VMSC. Move Modular Messaging services only after the migration is complete.

3. Continue with the migration to Release 5.1; see Analyzing the existing system on page 167.

Chapter 11: Migrating to Modular Messaging Release 5.1 on a customer-provided server

The chapter describes how to migrate from Release 1.1, Release 3.0, Release 3.1, or Release 4.0 to a Modular Messaging Release 5.1 system that runs on a customer-provided server.

The migration consists of adding aditional servers to the customers network where the newly added servers works along side the existing servers until the old ones are removed. Because, the servers have unique names, it is necessary to update the user clients with the new data.

Topics in this chapter include:

- Migration requirements on page 186
- Preparing for the migration on page 187
- Preparing the CPE server on page 189
- Setting up the new server for Modular Messaging on page 191
- Adding Modular Messaging accounts to the local Administrators group on page 194
- Installing and enabling Microsoft Windows services on page 195
- Analyzing the existing system on page 197
- Verifying and Saving Data on page 197
- Backing up the MAS on page 198
- Installing and Running the Modular Messaging Configuration Wizard on page 199
- Completing the server setup on page 206
- Configuring MAS port boards on page 210
- Disabling the CPE server on page 211
- Completing the migration on page 213

Migration requirements

To successfully migrate a Modular Messaging system, you need:

- Download the *Avaya Modular Messaging Documentation* from the http://www.avaya.com/support.
- All account names and passwords must conform to Windows 2003 security rules. If your account names and passwords do not conform to the new rules, you must change them before you analyze your system with the DCT executable file (**MMDCT.exe**). If you must change your Modular Messaging account names or passwords, contact your support organization for more information.
- Planning forms for the system that runs on Release 1.1 and Release 3.x or original DCT file for the system that runs on Release 4.0.
- Microsoft Exchange Server MAPI Client for a system with Microsoft Exchange 2007 mail servers. Download the MAPI client from the following site:

  http://www.microsoft.com/downloads/details.aspx?FamilyID=e17e7f31-079a-43a9-bff2-0a110307611e&DisplayLang=en.
- The following information and software from the Avaya Support Web site at http://www.avaya.com/support. For more information about how to access these items on the Web site, see Downloading required software and documentation on page 3.
  - The latest copy of the configuration notes for this switch integration.
  - Any Avaya software updates and third-party software required to bring the Avaya Modular Messaging software up to date after the migration is complete. Download this software to a USB storage device such as a flash drive, memory stick, or equivalent.
  - The latest version of MMDCT.exe.
- Print the migration checklist from Appendix A: Installation, upgrade, and migration checklists on page 215. Use the checklist to track your progress.
- You must obtain a new RFA license for your migrated system. For additional information, see Obtaining and installing a license on MAS#1 on page 85.
- Customer-provided Microsoft Exchange System Management Tools. For more information, see Installing third-party software on page 203.
  - For a system with Exchange 2007 mail servers, you will require the 32-bit version of the Exchange 2007 Management Tools, Microsoft Exchange 2007 Service Pack 1, and additional software downloads. You may download the 32-bit version of the Exchange 2007 Management tools from:

    http://www.microsoft.com/downloads/details.aspx?FamilyID=444C259E-605F-4A82-96D5-A2F448C9D4FF&displaylang=en

- For a system with Exchange 2003 mail servers, you will require Microsoft Exchange Service Pack 2 for Exchange 2003 System Management Tools, and additional software downloads.

Preparing for the migration

This section describes how to add a new Customer-provided server to replace an existing server to run Modular Messaging Release 5.1.

To migrate the system to Modular Messaging Release 5.1:

1. Review the configuration notes for any changes that might be needed in the areas of board configuration, switch programming, and application configuration. For more information, see Migration requirements on page 186.
2. Configure the new Customer-provided server by installing the Microsoft Windows 2003 R2 operating system, setting a computer name, installing Microsoft Windows 2003 SP2, configuring the network card, running recommended disk checks, disabling hyper-threading for IP H.323, joining the Windows domain, adjusting system values, adding Modular Messaging accounts to the local Administrators group and installing Microsoft Windows services.
3. Use the DCT to analyze the existing servers as well as the servers.

   Note:

   Also, include the Supplementary server, if present.
4. Verify and save the data on the MAS that is being replaced.
5. Back up the MAS that is being replaced.
6. Add the new CPE MAS to the system using the DCT data file created by the system analysis.
7. Complete setup of the new CPE sever by administering anti-virus software, installing software updates, updating Windows, verifying power management settings, entering RAS IP addresses on the MAS, and setting the logging location.
8. Configure port boards on the new CPE server, if the system uses a switch integration that is not automatically configured by the **MMCW**.
9. Disable Modular Messaging services on the server that is being replaced.
10. Move the disabled services to the new CPE server and enable them.
11. Restore customer data to the new CPE server.
12. Configure new Release 5.1 features and verify that required services are running.

13. Update Exchange extensions and client software on client machines where it was previously installed. See detailed steps in Chapter 3: Adding Exchange extensions for Modular Messaging on page 33 and Updating client software on page 244.

    Note:

    Schedule downtime for the Exchange Server if the Modular Messaging Subscriber Administration components need to be upgraded on the Exchange server and if the Exhcnage server prompts you for a restart.

14. Test and back up the new server. See Completing the migration on page 213.
15. Remove the server that is being replaced from the system.

Considerations for multiple-MAS migration

In a multiple-MAS configuration, Avaya strongly recommends that all MASs be migrated to Modular Messaging Release 5.1 software as soon as possible. During a migration, MASs in the same Voice Mail Domain can run different releases of Modular Messaging. However, at the completion of a migration, all MASs in the Voice Mail Domain must be running Release 5.1.

All MASs in the voice mail domain must be migrated to the same release of Modular Messaging software before you can enable the new Release 5.1 features.

If you are adding a new Modular Messaging machine to a multiple-MAS configuration, it cannot join an existing VMD that only has Release 1.1, Release 3.x, or Release 4.0 MAS servers in it. You need to migrate all other servers in your VMD to Release 5.1 before you can add the new server.

Preparing the CPE server

Complete the following procedures to set up the new customer-provided equipment (CPE) server to replace the existing server to support Avaya Modular Messaging services.

- Installing Microsoft Windows 2003 R2 operating system on page 189
- Setting a computer name on page 189
- Installing Microsoft Windows 2003 SP2 on page 189
- Configuring the network card on page 190
- Running recommended disk checks on page 190
- Disabling hyper-threading on page 190
- Installing modem drivers on the CPE MAS on page 190

Installing Microsoft Windows 2003 R2 operating system

Avaya recommends that you complete a new installation of Windows 2003 R2, when you perform new installations of Modular Messaging with CPE hardware. While installing Windows 2003 R2, ensure that you *only* install the Windows services listed in Installing and enabling Microsoft Windows services on page 195.

Setting a computer name

When installing Windows 2003 R2 on the server, you must manually provide the name of the computer before you run the Modular Messaging Configuration wizard.

Make sure that the name and IP address of the new Customer-provided server being added to the VMD does not conflict with the name and IP address of the existing server that is to be replaced.

Installing Microsoft Windows 2003 SP2

To install Microsoft Windows SP2:

1. Install Microsoft Windows Service Pack 2 on this MAS. Check with the Windows administrator for the appropriate software update procedures to use at this site.
2. Verify the Microsoft Windows service pack version that is installed:
   a. Right-click **My Computer** and select **Properties**.

b. Verify that Service Pack 2 is installed from the version description under the **System** section of the **General** tab.

c. Click **OK**.

Configuring the network card

For each customer-provided server, you must configure a network card to support a corporate LAN connection.

Assign IP addresses and other TCP/IP properties for the corporate LAN interface that this MAS will use. The IP address assigned should be different from the existing IP addresses.

Running recommended disk checks

Avaya recommends that the hard disk drive in the server be maintained to prevent possible problems. The system administrator must run the following on a regular basis:

- Disk Defragmenter system tool
- **chkdsk** command

If this server is in service and has not been recently maintained, run the two recommended procedures.

Disabling hyper-threading

Important:
If you have CPE servers that support hyper-threading and that use IP H.323 switch integration, complete this task BEFORE doing anything with the Avaya Modular Messaging Configuration wizard.

Follow hardware-specific requirements to disable hyper-threading.

Installing modem drivers on the CPE MAS

For CPE MAS, the customer must install the drivers for serial adapters, serial port and the modem. Avaya does not take the responsibility of installing modems on the CPE MAS.

Setting up the new server for Modular Messaging

You must set up the customer-provided server to support Modular Messaging software as described in this section.

- Joining the Windows domain on page 191
- Adjusting system values on page 192

Joining the Windows domain

You must manually add this server to the appropriate Microsoft Windows domain for this Modular Messaging system:

1. Switch the monitor to show this server.

   Use whatever method is required at this site to have the monitor display the MAS that you are administering.

2. Log on to the local administrator account for this server:

   a. In the **Log On to Windows** window, change the user name to the local administrator account name, such as *mas1-admin*.

   b. Enter the password for this account.

   c. If the **Log in to:** field shows a different domain, use the drop-down box to select this server.

   d. Press **Enter** or click **OK**.

3. Right-click **My Computer** and select **Properties**.

4. In the **System Properties** window:

   a. Click the **Computer Name** tab.

   b. Click **Change**.

5. In the **Computer Name Changes** window:

   a. Under **Member of**, select **Domain**.

   b. Type the name for the corporate Windows domain.

   Note:

   Depending on the local configuration, you might need to enter the fully qualified name here.

   c. Click **OK**.

   d. Another **Computer Name Changes** window might open. If it does:

1. Enter the name of an account that has permissions to join the Windows domain. You usually use the Modular Messaging service permissions, if the domain administrator has set up the account as described in Creating Modular Messaging customer and technical support accounts on page 13. The account name must be in the format ***domain\account name***, such as *domain1\mmacct*.
2. Enter the password for this account. Click **OK**.

6. If a Welcome to the domain message is displayed, click **OK**.
7. When prompted to restart, click **OK**.
8. Click **OK** to close the window.
9. If you are prompted to restart the server, click **Yes**.

Adjusting system values

You must adjust some default values on the server to support Modular Messaging. Verify the following settings, and adjust them if needed:

Note:

Modular Messaging Release 5.1 is configured to use 3GB address space on the CPE MAS.

1. Adjust the values for the Event Viewer:
   a. Right-click **My Computer** and select **Manage**.
   b. In the left pane, expand **Event Viewer**.
   c. Adjust the application log values:
      1. Right-click **Application** and select **Properties**.
      2. On the **General** tab, under **Log size**, adjust the following values:
         - Avaya recommends that you set **Maximum log size** to at least 102400 KB.
         - Select **Overwrite events as needed**.
      3. Click **OK**.
   d. Adjust the system log values:
      1. In the right pane, right-click **System** and select **Properties**.
      2. On the **General** tab, under **Log size**, adjust the following values:
         - Set **Maximum log size** to at least 4032 KB.
         - Select **Overwrite events as needed**.
      3. Click **OK**.

e. Close the next window.

2. Right-click **Start** and select **Explore**. Adjust File and Printer Sharing properties:
   a. Right-click **My Network Places** and click **Properties**.
   b. Right-click **Local Area Connection** and click **Properties**.
   c. Select **File and Printer Sharing for Microsoft Networks** and click **Properties**.
   d. On the **Server Optimization** tab, select **Maximize data throughput for network applications**.
   e. Click **OK**.
   f. Close the next two windows.
3. Adjust the Windows 2003 Server operating system values:
   a. Right-click **My Computer** and select **Properties**.
   b. Click the **Advanced** tab.
   c. Under **Performance**, click **Settings**.
   d. Click the **Advanced** tab.
      1. Under **Processor Scheduling**, select **Background services**.
      2. Under **Virtual memory**, click **Change**.
      3. The **Initial size** and **Maximum size** fields for the **Paging file size for selected drive** value vary by machine. Tailor these fields by adding 11 to the default value that is displayed as follows:
         - Under **Paging file size for selected drive**, set both the **Initial size** and **Maximum size** to the default value plus 11 MB.
         - Click **Set**.
         - Click **OK**.
      4. Close the next window.
   e. On the **Advanced** tab:
      1. Under **Startup and Recovery**, click **Settings**.
      2. In the **Startup and Recovery** window, under **System Failure**, verify that the **Automatically restart** checkbox is checked.
      3. Click **OK**.
   f. Close the next window.
4. Restart the server before continuing:
   - If you are prompted to restart the server, click **Yes**.
   - If the system does not prompt you, manually restart the server now. For example:
     a. Press **Ctrl**+**Alt**+**Del**. Click **Shut Down**.

b. Select **Restart** from the drop-down list. Click **OK**.

The server restarts.

Adding Modular Messaging accounts to the local Administrators group

For the accounts to work correctly, you must add the Modular Messaging service permissions and the technical support account to the local administrators group:

1. Log on to the local administrator account for this server. For details, see Joining the Windows domain on page 191.
2. Click **Start** > **Control Panel**.
3. Double-click **Administrative Tools**.
4. Double-click **Computer Management**.
5. Under **System Tools**, expand **Local Users and Groups** and then click **Groups**.
6. In the right pane, double-click the **Administrators** group.
7. Click **Add**.
8. In the **Enter object names to select** pane, enter the names of the service permissions and technical support remote access account. The account names must be in the format ***domain\account name*** (such as *domain1\mmacct*).

   Note:

   You can search for the accounts by entering a portion of the name in the **Enter the object names to select** pane, and clicking **Check Names**.

   After names are entered, click **OK**.
9. Close all open windows.

Installing and enabling Microsoft Windows services

You must install and enable the Microsoft Windows services on each CPE MAS that handles voice calls as described in this section.

To install and enable all required Windows services:

1. Log on to an account that has permissions to install software on this computer, such as the local administrator account.
2. Remove any external hard drives from the MAS.
3. Insert the Microsoft Windows Operating System CD in the MAS drive.
4. Click **Start** > **Settings** > **Control Panel** > **Add or Remove Programs**.
5. In the **Add or Remove Programs** window, in the left column, click **Add/Remove Windows Components**.
6. To install Microsoft Windows services:
   a. In the **Windows Components Wizard** window, highlight **Application Server**. Click **Details**.
   b. Verify that the following items are checked:
      - Application Server Console
      - ASP.NET
      - Enable COM+ access
      - Message Queuing

      The **Internet Information Services (IIS)** checkbox becomes checked.
   c. Highlight **Internet Information Services (IIS)**. Click **Details**. Verify that the following items are checked:
      - Common Files
      - Internet Information Services Manager
      - World Wide Web Server

Note:

When you check these items, IIS gets checked automatically.

The Internet Information Services items listed above are always required.

If you plan to install the Microsoft Exchange 2003 System Management Tools, click the checkboxes for **NNTP Service** and **SMTP Service**. The SMTP Service automatically selects other required components as needed.

If you plan to install the Microsoft Exchange 2007 Management Tools, do *not* install NNTP Service and SMTP Service.

d. In the same window, highlight **World Wide Web Server** and click **Details**. Verify that World Wide Web Services is checked.

e. Close this and the next two windows.

7. Install the Windows services to support SNMP:

   a. in the **Windows Components Wizard** window, highlight **Management and Monitoring Tools** and click **Details**.

   b. Click the checkbox to select **Simple Network Management Protocol** and click **OK**.

8. Install the Windows Fax Service, in the **Windows Components Wizard** window:

   a. Check **Fax Services**. Click **Next**.

   b. Select **Do Not Share Fax Printer** and click **Next**.

9. Complete the wizard to install the selected services.

   Note:

   If the required services were already installed (all the appropriate boxes were checked), click **Cancel** to close the wizard.

10. When the installation is complete, close the **Add or Remove Programs** window.

11. After the software is installed, enable each installed service as follows:

    a. Right-click **My Computer** and select **Manage**.

    b. In the left (Tree) pane, expand **Services and Applications**, and click **Services**.

    c. In the right pane, scroll down to the first new service that you installed. Double-click the service.

    d. In the **Properties** window:

       1. On the **General** tab, set the **Startup type** to **Automatic**. Click **Apply**.

       2. Under **Service status**, click **Start**.

       3. Wait for service to start, and then click **OK** to close this window.

    e. Repeat Steps c and d to enable each of the services you installed. Note that only a subset of these services might be present on a particular MAS.

12. When all services are enabled, close all open windows.

Analyzing the existing system

Analyze the existing system by using the Avaya Modular Messaging Data Collection Tool (DCT) to collect information from each MAS and Supplementary server.
See Using the DCT to collect information from an MAS on page 146 for more information.

Verifying and Saving Data

It is important that you record all critical system settings and back up all data in advance.

Complete the following tasks before you start a Release 5.1 migration.

1. Verify key settings on the MAS, including:
   - Switch integration settings
   - Port board settings and extensions
   - Domain information
   - Basic system setup
   - Modular Messaging service account

   Ensure that you record the following items:
   - Record the IP addresses for the MAS modems in the remote access service (RAS) group.
   - In the VMSC for each MAS, record any *non-default* port groups and their names, such as the MWI port group.
   - Record which Modular Messaging services are running on each MAS.
   - Record the SNMP trap destination and community details from the **Serviceability - Voice Mail Domain** window
2. If the site has caller applications, make sure that a copy of all editable files is on a separate computer, *not* the MAS. See Backing up the system on page 115 for information about where to locate these files on your system.
3. Check for errors or warnings on the system. Resolve major and minor alarms.
4. Review product functionality with the customer, including:
   - Differences that will be noticeable to the customer

- Known issues; see Product Support Notices (PSNs) on the Avaya support website
- Rollout plan for new features
- Security concerns

Backing up the MAS

Before beginning the migration, make a current backup of the important system files, including any customized tone files and the DCT data file that you just created. For this procedure, see Backing up the system on page 115.

Installing and Running the Modular Messaging Configuration Wizard

The **Modular Messaging Configuration** wizard controls the next steps in adding the new server to the system. In installing and running the wizard you must complete the following procedures:

- Running the Modular Messaging Configuration Wizard on page 199
- Updating Windows Internet Explorer 7 security on page 203
- Installing third-party software on page 203
- Completing the MMCW configuration on page 205

Installation procedures for Dialogic drivers and the RealSpeak engine differ if you have chosen to install modular messaging to a drive other than the default **C:** drive. Differences are described in each procedure. The drive location for the Modular Messaging installation is set in the DCT data file.

Running the Modular Messaging Configuration Wizard

Use the following steps to collect data from each MAS and the supplementary server, if present:

The Modular Messaging Configuration wizard (MMCW) uses the DCT data file to configure the CPE MAS. You must install the Modular Messaging Configuration wizard (MMCW) to configure each CPE MAS.

Complete the following steps:

1. Verify that the USB storage device with the DCT data file (*.mmdct) and most recent DCT executable file (MMDCT.exe) is inserted in the USB port.
2. Turn the server on.
3. Log on to the MAS using the Modular Messaging customer account created in Creating Modular Messaging customer and technical support accounts on page 13.
4. Insert the ’Avaya Modular Messaging R5.1 MAS Application DVD’ disk into the DVD drive of the CPE MAS server.
5. Navigate to the ***Install\MISCM*** directory and double-click the ***MMConfigurationWizard.msi*** file.

   The system installs the configuration wizard in the ***C:\Program Files\Avaya Modular Messaging\Install\MISCM*** directory and launches the Modular Messaging configuration wizard.

6. Click **Finish**.

   The system opens the **Modular Messaging DCT Tool** window.

7. On the **Modular Messaging Welcome** screen, click **Next**.
8. On the Locate Configuration Data screen, click **Browse**.
   a. In the Open window, click the drop-down list next to **Look in**.
   b. Navigate to the storage device.

      If the server fails to recognize the storage device, you can:

      1. In the Open window, click **My Computer** in the left pane. After the **Look in** field shows **My Computer**, press **F5** to refresh the screen.
      2. If the system fails to display the storage device, unplug the device and insert the device again.

   c. Double-click the most current DCT data file.
9. On the **Locate Configuration Data** screen, click **Next**.
10. When the system prompts you to confirm the data file, click **Yes**.

    The system opens Avaya Modular Messaging Data Collection Tool window.

11. Update the following screens:
    a. Navigate through the first few screens and verify the data. Click **Next** on each screen.
    b. Under **MM servers**, click **Message store**. On the system **Message store** screen, if not already selected, select **Microsoft Exchange with customer's MAS servers**.
    c. Under **MM servers**, click **Voice Mail Domain**. On the system **Voice Mail Domain** screen complete the following:

       1. Update the Number of MASs in the VMD by increasing the number of MASs by 1 to include the MAS you are adding.
       2. The system displays a warning that you are changing the number of MAS servers in the Voice Mail Domain. You must analyze the system at the end of this procedure to make sure that the data file reflects the changes you make. Click **OK**.
       3. Click **Next**.

    d. Under **Networking**, click **Corporate server networking details**. The system displays **Corporate server networking** details screen.

       - Enter the values in the **Full Computer Name** field and the **IP address** field for the server that you are adding. The values entered should be unique, since it will be in service at the same time as the old server.

    e. Under **Accounts and passwords**, click **MAS accounts and passwords**. The system displays MAS accounts and passwords screen.

       - Enter the Local administrator account details in the **Logon name** and the **Password** fields for each MAS and Supplementary server.

f. If the server is to run the Messaging Application Server service and handle calls, then in **TTS sessions and languages**, click **TTS and announcements**. The system displays **TTS and announcements** screen.

- Select required announcement and TTS languages. Also enter the TTS sessions for each MAS.

g. In **MAS servers**, click **MM service selection**. The system displays **MM service selection** screen.

CAUTION:

Do not attempt to move services using this screen! Leave all the Modular Messaging services set exactly as they are. Do not move services from one column to another, or you will damage the operation of the system.

- For an MAS, select *only* the **Message Application** check box. Leave all other services set as they are.
- For a supplementary server, *do not* select the **Message Application** check box. Do not select any other services. Leave the **MAS** column for the new server blank.

h. Click **Save**.

12. Save the updated data file to the storage device:
    a. When the system prompts you to save the file, click **Yes**.
    b. In the **Save As** window, navigate to the storage device.
    c. Type the name of the data file in the **File name** field, such as *sitefile*.
    d. Leave the file type set as *.mmdct*.
    e. Click **Save**.
    f. If the system prompts you to replace an existing data file, click **Yes**.
13. To continue the configuration process, click **Complete**.

    The system automatically saves the updated data file to the ***C:\Program Files\Avaya Modular Messaging\Install\MISCM\cfg*** directory on the new server.
14. The system returns you to the Avaya Modular Messaging Configuration Wizard.
15. On the **Messaging Application Server Number** screen, specify the **MAS number** field to show the correct number for this server.
16. Click **Next**.
17. When the system prompts you to log on, log on to the CPE MAS using the administrator account.
18. When the configuration wizard prompts you to locate the Dialogic installation file, insert the ’Modular Messaging R5.1 MAS Application DVD’ disk.

Note:

The configuration wizard prompts you for the Dialogic installation file ***only*** if you install the Dialogic port boards on the CPE MAS.

19. Navigate to the DVD drive and double-click the ***Dialogic_Drivers\MMDialogicInstall.bat*** file. The system opens the Dialogic driver installation wizard.
    a. Click **Next** and accept the licence agreement.
    b. Click **Next**. Repeat this step until the system displays the **Choose Destination Location** screen.
    c. Click **Browse**.
    d. On the **Choose Folder** screen in the **Path:** field, change the drive letter to match the drive where Modular Messaging is being installed. This drive is set in the DCT file. Do not browse to find the new location. The path will read ***<drive letter>:\Program Files\ Dialogic***.
    e. Click **Next** and continue to accept default values to complete the wizard.
20. The system launches the **Found New Hardware Wizard**. Complete the wizard to install the Dialogic driver software.
    a. When the system prompts you to use Windows update, select **No, not at this time** and click **Next**.
    b. When the system prompts you to choose the software, select **Install the software automatically** and click **Next**.
    c. When the **Security Alert - Driver Installation** window opens, select **Yes** to install the driver.
    d. Click **Finish**.
    e. Repeat steps f to k for each Dialogic board on this MAS.
    f. When the system prompts you, In the **Setup Complete** dialog box, select **No, I will restart my computer later**, and click **Finish**.
21. On the **Remote Shutdown** dialog, click **Cancel**.
22. When the configuration wizard prompts you to locate the ***InstallRSEngine.bat*** file, insert the 'Modular Messaging R5.1 MAS Application DVD' disk.
23. When you receive the error message that the **<drive>:\Realspeak** location is not available:
    a. Insert disk 2 of the *Avaya Modular Messaging Messaging Application Server Software* media into the DVD drive to install the RealSpeak engine and languages.
    b. Click **OK** to close the dialog box.
    c. In the **Look In** field, choose the DVD drive and double-click the **Realspeak** directory.
    d. Click **Open**.

    The **RealSpeak 4.0 InstallShield** wizard starts.

24. If you are installing Modular Messaging to the default C: drive, complete the wizard by accepting all default values. If you are installing Modular Messaging to an alternate drive, complete the following steps:
    a. Move through the RealSpeak installation wizard accepting defaults until you see the **Custom Setup** screen.
    b. On the **Custom Setup** screen, highlight RealSpeak Common Components. Click the arrow next to **RealSpeak Common Components** and select **This feature and all subfeatures will be installed on local hard drive**. Click **Change**.
    c. On the **Change Current Destination Folder** screen, in the **Folder name:** field change the letter of the drive to match the drive where Modular Messaging is being installed. This drive is set in the DCT data file. Do not browse to find the new location. The path will read **<*drive letter*>:\Program Files\ScanSoft\RealSpeak 4.0**.
    d. Click **OK** and continue to accept default values to complete the wizard.
25. After the RealSpeak engine is installed, at the prompt to reboot the system, choose to reboot.
26. After the system reboots, log on using the customer account, for example *mmacct*. The RealSpeak languages install.
27. Click **Next**.
28. After the reboot, the MMCW prompts you to install third-party software. **DO NOT** press **Continue with installation** until you complete the following:

Installing third-party software

Do *not* press **Continue with installation** until you do the following:

- If you are installing third-party software from a mapped network drive, update Windows Internet Explorer 7 security. See Updating Windows Internet Explorer 7 security on page 203.
- For Exchange 2007, see Installing third-party software for Exchange 2007 on page 204
- For Exchange 2003, see Installing third-party software for Exchange 2003 on page 205

Updating Windows Internet Explorer 7 security

If you are installing third-party software from a mapped network drive, complete the following steps to update Explorer 7 security. If you do not make this update and you use a domain account to install third-party software, Windows will not allow the installation. This procedure is not necessary if you are installing third-party software from a disk or other removable media such as a USB storage device.

1. Map to the network drive where the third-party software resides.

2. Launch Windows Internet Explorer 7.
3. If a window appears that states Windows Internet Explorer Enhanced Security is enabled: click **OK**.
4. From the browser, select **Tools > Internet Options**.
5. On the **Internet Options** window, select the **Security** tab.
6. In the **Select a zone to view or change security settings** box, click **Local intranet**.
7. Click **Sites**.
8. On the **Local intranet** window, in the **Add this website to the zone** field, type the universal naming convention (UNC) path of your mapped network drive, using the format: \\<***computername***>\<***share***>. Click **Add**.
9. Click **OK** to close the Local intranet and Internet Options windows.

Installing third-party software for Exchange 2007

Use the procedures in this section to install third-party software when installing Modular Messaging with an Exchange 2007 peer mail server.

When prompted to install third-party software:

1. Install the MAPI client by double-clicking the MAPI executable file.
2. Install Microsoft Exchange 2007 Management Tools:
   a. Double-click the tools executable file.
   b. Double-click the extracted Microsoft Exchange Installation wizard.
   c. Complete the Microsoft Exchange Installation Wizard selecting **Custom Exchange Server Installation**. Elect to install the **Management Tools**. For details about this procedure, see the Microsoft Exchange documentation.

   You may be prompted to download and install additional components and hotfixes. Follow the installation prompts. Be sure to download the Windows 2003 32-bit version of each component.
3. If prompted, reboot the system.
4. Verify that the Exchange Management Tools can communicate with the Exchange 2007 mail server.
5. Follow site-specific procedures to install Microsoft Exchange Server 2007 Service Pack 1.
6. Install antivirus software. See Administering anti-virus software on page 48
7. For completing the installation, perform the procedures mentioned in Completing the MMCW configuration on page 205.

Installing third-party software for Exchange 2003

When prompted to install third-party software:

1. Insert the customer-provided Microsoft Exchange Server media in the MAS drive.
2. Install the management tools by completing the Microsoft Exchange Installation Wizard.
3. If you receive a compatibility warning, click **Continue**.
4. For details about this procedure, see the Microsoft Exchange documentation.
5. Install Microsoft Exchange Service Pack 2 and additional software downloads.
6. Installing anti-virus software. See Administering anti-virus software on page 48.

Completing the MMCW configuration

After third-party software is installed, continue with the following steps to complete the configuration:

1. Verify that the *Avaya Modular Messaging Messaging Application Server Software* media in the MAS DVD drive.
2. In the third-party dialog box, click **Continue with installation after installing 3rd-party software** on the 3rd-party dialog box. The MMCW resumes with the following sequence of events:
   - The **Setup** screen displays, followed by the **System Upgrade** screen.
   - The system reboots and logs on without user intervention.
   - MMCW restarts automatically and runs the MM Application Setup, installing all MM components.
   - After another reboot and auto log on, the MMCW continues the system configuration, displaying informational messages, as each component, such as dialogic drivers or remote access is configured.
3. When MAS configuration is complete, the progress bar stretches across the window and the Next button becomes active. Click **Next**.
4. On the **Modular Messaging Wizard Completed** screen, click **Finish**.

Completing the server setup

To complete setup of the server complete the following tasks as necessary:

- Installing software updates on page 206
- Updating Microsoft Windows on page 206
- Verifying Power Management settings on page 207
- Entering RAS IP address on each MAS on page 207
- Setting logging location on page 209

Installing software updates

The Modular Messaging Release 5.1 software is the most current version available at the time of release. However, you need to update the software after a migration to include the latest changes. Avaya provides these updates in the form of an Avaya Service Pack (SP) or a software patch.

To determine if a Modular Messaging software update is needed:

1. Locate any relevant Avaya software updates on the Avaya Support Web site at http://www.avaya.com/support. For complete steps, see Obtaining software updates from the Web on page 307.

   Note:

   If you followed the procedure for Downloading software updates on page 4, you would have already downloaded any required software updates.

If the Modular Messaging system requires a software update, do the update procedure now, before you do acceptance testing. Use the instructions in Appendix F: Updating Modular Messaging software on page 307 to update the system with the latest changes.

Updating Microsoft Windows

After a migration, you must install the latest updates for Microsoft Windows, including operating system updates and security patches. These software updates protect the system from known security weaknesses. Check with the appropriate Windows administrator for the software update procedures to use at this site.

Note:

Avaya technical support representatives must follow the specified internal procedures to verify the software that is installed. If required, the support representative must update the software with the latest patches as instructed.

Verifying Power Management settings

Rename the corporate LAN connection for this MAS so that it is easier to identify and change the LAN power management settings. Complete the following steps:

1. . Click **Start > Settings > Network Connections**.

   The **Network Connections** window opens.

2. Identify the corporate LAN on this server. This LAN has device name **Intel PRO/1000 CT Multifunction Gigabit Server Adapter #2**. The corporate LAN is labelled **Local Area Connection**.

   Rename this item as follows:

   a. Right-click the text **Local Area Connection** and select **Rename**.

   b. Change the name to **Corporate LAN**.

3. Change the Power Management settings for the LAN connection:

   a. Right-click the LAN connection and select **Properties**.

   b. Click **Configure**.

   c. Click the **Power Management** tab.

   d. Clear the **Allow the computer to turn off this device to save power** check box.

4. Close any LAN-connection windows.

Entering RAS IP address on each MAS

The Avaya Modular Messaging Configuration Wizard automatically sets up inbound remote access to each MAS modem. You must edit the preprogrammed RAS IP addresses to use the addresses that the technical support organization requires.

CAUTION:

If Avaya is to support this system, you must enter the RAS IP addresses assigned by the Avaya Automatic Registration Tool (ART). Otherwise remote access for Avaya technical support will not work.

Complete the following to set up the IP addresses on this MAS:

1. Double-click the **Configure** icon on the desktop.
2. In the left pane of the **Configure** window, expand **Routing and Remote Access**.
3. Expand the server name.
4. Verify authentication:

   a. Highlight **Remote Access Policies**.

b. On the right pane, double-click **Connections to Microsoft routing and remote access**.
c. Click the **Edit Profile..** button.
d. Select the **Authentication** tab.
e. Make sure that all check boxes (except for the **Unauthenticated access** check box) are selected. If necessary, clear the **Unauthenticated access** check box.
f. Click **OK**.
g. If a dialog box appears, click **No**.
h. Click **OK**.

5. Right-click the server name from the pop-up menu and select **Properties**.
6. Set up PAP security:
   a. In the **Local Properties** window, click the **Security** tab.
   b. Click **Authentication Methods...**
   c. Select **Unencrypted Password (PAP)**.
   d. Verify that all other check boxes are blank. If necessary, clear the check boxes.
   e. Click **OK**.
7. Set up a static IP address pool as follows:
   a. In the local **Properties** window, click the **IP** tab.
   b. Under **IP address assignment**, select **Static address pool**.
   c. Add or edit the address range as follows:
      - If the window shows an incorrect IP address range, select the displayed range and click **Edit**.

      CAUTION:
      If Avaya Moduar Messaging is to support this MAS, do not use the preprogrammed IP addresses. You must Edit and Remove these addresses for remote access to work.

      - If no address range is already entered, click **Add**.
   d. In the **Address Range** dialog box, enter the correct start and end IP addresses for this server.To get the start and end IP addresses, you *must* register your system.
   e. Verify that the number of addresses is **2**.
   f. Click **OK**.
   g. In the **Adapter** field, select **Allow RAS to select adapter**.
   h. Click **OK** to close the **Properties** window.
   i. If a dialog box appears, click **No**.
   j. Close the **Configure** window.

Setting logging location

CAUTION:

You must have adequate space on the drive where your logs are located. If you do not, your system may fail to operate correctly. Check the location where your system is recording logs to be sure you don't overrun your allotted space.

You may want to change the default location for recording logs, if you do not have adequate space on the default ***C:*** drive location. Likewise, if you installed Modular Messaging to a drive other than the default ***C:*** drive, the logging location is not automatically changed. In this case you may want to change the location for recording logs to the same drive as the software installation.

To change the location for recording logs, complete the following steps:

1. Navigate to the following location on the drive where Modular Messaging was installed: **<*drive*>:\Avaya_Support\Tools**.
2. Double-click the **MM_Logging.exe** file.

   The Modular Messaging **Verbose Logging** Window opens.
3. Complete the following steps for each type of log displayed at the top of the screen with the exception of the **Client**.
   a. Click the log-type button.
   b. In the **Folder for Log Files:** field, edit the drive letter to the drive where you want logs stored. If you have installed Modular Messaging to an alternate drive, edit the field to show the drive where Modular Messaging was installed.
   c. Click **Apply** at the bottom of the screen.
4. When the log location has been changed for all log types, click **Close** at the bottom of the screen.

The MM Debug Log Viewer should be set up to open log files automatically after installation. If for some reason this association is not made or it becomes changed, do the following manual setup.

To manually set up MM Debug Log Viewer:

1. From the desktop, open **My Documents** (or any Windows Explorer window).
2. Click **Tools > Folder Options > File Types**.
3. Is LOG4 listed in the extensions list?
   - If YES, skip to step 7.
   - If NO, continue with step 4.
4. Click **New**.
5. In the **Create New Extension** box, type **log4**. Click **OK**.

6. In the extensions list, at the top, highlight **LOG4**. Click **Change**.
7. Click **Select the program from a list**.
8. In the **Open With** window, highlight **MM Debug Log Viewer**. If this selection is not present, click **Browse** and navigate to and select **`C:\AVAYA_Support\Tools\LogViewer\MMLogViewer.exe`**.
9. Click **OK**.
10. Close all windows.

Configuring MAS port boards

Important:

If this MAS does not contain Dialogic port boards, skip the rest of this section and continue with Chapter 6: Configuring the voice mail system on page 77.

The Avaya Modular Messaging Configuration Wizard automatically configures the dialogic port boards for the following switch integrations:

- Avaya (QSIG)
- Cisco (QSIG)
- Nortel NT M-1 (QSIG)
- Siemens Hipath (QSIG)

If this MAS does *not* use one of the automatic-configuration switch integrations, you must configure the Dialogic port boards manually.

1. Continue with Appendix E: Configuring and testing port boards on page 293.
2. After you configure and test the Dialogic port boards, continue with Disabling the CPE server on page 211.

Disabling the CPE server

You need to disable the CPE server that is being replaced.

To disable the server:

- Busying out ports on page 211
- Logging off all remote logins on page 211
- Disabling Services on page 212

Busying out ports

Busy out the ports on the MAS that you are replacing and on the switch.

To busy out the ports:

1. The PBX administrator must use the procedures appropriate for this PBX to busy out the ports. Depending on the switch integration, the administrator might be able to temporarily reroute calls to other MASs. If an MAS is unavailable, callers into the system might hear ring-no answer or a busy signal.
2. Use the port monitor to disable the MAS ports:
   a. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Port Monitor**.
   b. In the **Port Monitor** window, hold down the **Shift** key or Control (**Ctrl**) key and click to select all the ports.
   c. Right-click the port list and select **Disable**.
   d. Verify that the status of all ports is **Disabled**.
   e. Close the **Port Monitor** window.

Logging off all remote logins

To log off all remote logins:

1. Logon to the MAS using an account that has administrative permissions.
2. Click **Start** > **Programs** > **Administration**.
3. Open your **Windows Task Manager** and select the **Users** tab.
4. Select remote logins and click **Logoff**.
5. If there are no remote logins, click **Cancel** to exit.

Disabling Services

You need to disable the services on the servers you want to replace from the existing system. See Disabling Modular Messaging services you plan to move on page 245 for more information.

Completing the migration

To complete the migration of the customer-provided server you need to::

- Move the services from the server that is being replaced to the new CPE server. See Moving Modular Messaging services among servers on page 247 for more information.
- Restore the customer data, see Restoring the CPE MAS on page 327.

  Note:

  However, you need not restore the caller app as it is already restored during the installation of the new Modular Messaging system on the VMD.

  For more information, refer to the *Avaya Modular Messaging Documentation* media.
- Test the Modular Messaging system. For more information, see Chapter 7: Testing and backing up the system on page 103.

  CAUTION:

  Continue with the next step only if the new system has been completely tested and signed off by the customer.
- Remove the S3400 or S3500 server that you are replacing. To remove the servers:

  1. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration** to open the **VMSC window**.
  2. In the **VMSC** window, double-click **Message Application Servers**.
  3. Right-click the name of the server you are removing. Click **Remove**.
- Remove the Modular Messaging components from the server. For more information, see Appendix I: Removing Modular Messaging components from an MAS on page 331.
- Power off the servers you are removing.
- You need to repeat the procedure from Verifying and Saving Data on page 197 for each MAS you need to migrate.

Appendix A: Installation, upgrade, and migration checklists

This appendix contains checklists to help guide you through the various installation, upgrade, and migration tasks.

- Before starting a new Modular Messaging installation, upgrade, or migration, print the checklist relevant to the procedure that you must do.
- Check off the steps as you complete them to make sure that you do not overlook any important tasks.

Checklists include:

- New installation:
  - New Modular Messaging installation on an Avaya MAS on page 216
  - New Modular Messaging installation on a customer-provided MAS on page 220
- Upgrade from Release 3.x or Release 4.0 to Release 5.1:
  - Modular Messaging upgrade on an Avaya MAS on page 226
  - Modular Messaging upgrade on a customer-provided MAS on page 231
- Migrate Modular Messaging to Release 5.1:
  - Modular Messaging migration on an Avaya MAS on page 235
  - Modular Messaging migration on a customer-provided MAS on page 239

New Modular Messaging installation on an Avaya MAS

This checklist applies to a new Modular Messaging installation using an Avaya Messaging Application Server (Avaya MAS). As you complete a procedure, make a check mark in the " ✔ " column.

Modular Messaging on an Avaya MAS installation checklist

✔	Description	Page	Comments
Complete preinstallation planning:			
	If Avaya is to maintain this system, preregister the system in ART. The registration process produces product IDs for the servers and IP addresses for remote access.		You can obtain all required information for each MAS in advance.
	Assemble and review the required documentation.	2	Web access required.
	Download required software updates, including the latest version of the DCT executable file (**MMDCT.exe**) and client software.	4	Web access required.
	Obtain the DCT data file (**.mmdct)* for this site.	3	
	Review security considerations.	7	
	Obtain virus-checking software for the MAS if required.	7	Customer obtains.
	Gather the necessary test equipment and tools.	8	
	Arrange for initial switch and LAN administration. Register corporate FQDNs on the DNS if required. **Note:** Avaya is not responsible for the installation, administration, or test of communications between customer computers and the LAN.	9	See LAN administrator. Time of administration and site requirements vary.
	Verify that the switch or PBX is administered.	9	See switch administrator.
	Arrange for the Active Directory data schema update.	N/A	Review requirements in Chapters 4 and 5.
	Collect any software media that is needed for the installation, such as MS Windows updates or anti-virus software.	4	Leave customer CDs and DVDs on-site.
1 of 5			

Modular Messaging on an Avaya MAS installation checklist

✔	Description	Page	Comments
Prepare to install the Modular Messaging software: Note: The customer Active Directory administrator may be required to perform these tasks.			
	Create the Modular Messaging customer account security group and customer account on the Active Directory server.	13	
	Create the technical support account on the Active Directory server.	13	
	Create test subscriber accounts on the Active Directory server (set up at least one for each TUI used on the site).	17	
	Assign permissions to the Service Permissions Group.	19	
	Add a computer account for each MAS to the Active Directory server.	26	
	Set up each server for remote access.	27	
	Install the Active Directory and data schema updates for Windows 2003.	28	Do this before installing other Modular Messaging software. System restart required.
	Install the Modular Messaging Exchange subscriber administration extensions on any machine used to administer subscribers (and on Exchange server if required).	30	
Configure a new Avaya MAS:			
	Display an MAS from the console	42	
	Use the Avaya Modular Messaging Configuration wizard to access the DCT data file (**.mmdct)* to configure the MAS information automatically.	44	
	Update Windows Internet Explorer 7 security.	46	
	For an Exchange 2003 system, install third-party software: • Exchange System Management Tools • Exchange Server 2003 SP2 (see comment) • Anti-virus software	46	
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Modular Messaging on an Avaya MAS installation checklist

✔	Description	Page	Comments
	For an Exchange 2007 system, install third-party software: • MAPI client • Exchange 2007 Management Tools • Exchange Server 2007 SP1 • Additional components as prompted by installation • Anti-virus software	46	
	Complete the MMCW configuration.	48	
	Administer anti-virus software.	48	
	Install software updates.	49	
	Update Microsoft Windows.		
	Change LAN settings.	50	
	Enter RAS IP addresses on each MAS	51	
	Configure port boards, if needed.	52	
Configure the voice mail system: Note: The customer domain administrator may be required to perform these tasks.			
	Specify languages and verify that the Modular Messaging services are started.	79	For a non-English Windows operating system.
	Configure TUI and access settings.	80	Configuration notes required.
	Configure the broadcast mailbox.	81	
	Configure the PBX type.	83	
	Configure serviceability settings.	83	
	Obtain and install a license for this system.	85	Local procedures vary.
3 of 5			

Modular Messaging on an Avaya MAS installation checklist

✔	Description	Page	Comments
	Configure specific features: • Call Me service • Notify Me • MWI service • Languages or TTS • Audit service • MM Fax Service • Offline access to messages	88	Configure features as needed.
	Configure MAS-specific parameters: • INADS alarming (if used) • Port boards and switch integration	94	
	Restart service.	98	
	Verify call-handling capability.	100	
	Verify alarming setup.	100	
	Verify Tracing Service operation.	101	
	Verify Audit Service.	101	
	Repeat installation for any additional MASs.		
Test and back up the system:			
	Add a test subscriber on the directory server for each TUI used at this site.	104	
	Set up monitoring tools: • Operational History Viewer • Port monitor	106	
	Perform acceptance tests: • Create and send a call-answer message. • Retrieve test messages in integrated mode. • Create and send a test message in nonintegrated mode. • Test the outcalling capability. • Create and print a fax message • Run additional tests.	108	Repeat for each MAS that is set up to handle calls.
	Remove the test subscribers from the directory server.	114	
4 of 5			

Modular Messaging on an Avaya MAS installation checklist

✔	Description	Page	Comments
	Perform a complete DCT analysis of the supplementary server and all MASs.	115	
	Back up the system.	115	Use local procedures.
	Turn the system over to the customer.	116	Be sure to give the customer an updated DCT data file.
	5 of 5		

New Modular Messaging installation on a customer-provided MAS

Use this checklist to install a new Modular Messaging system on a customer-provided MAS. As you complete a task, make a check mark in the " ✔ “column.

Modular Messaging on a customer-provided MAS installation checklist

✔	Description	Page	Comments
Complete preinstallation requirements:			
	If Avaya is to maintain this system, preregister the system in ART. The registration process produces product IDs for the servers and IP addresses for remote access.		You can obtain all required information for each MAS in advance.
	Assemble and review the required documentation.	2	Web access required.
	Download required software updates, including the latest version of the DCT executable file (MMDCT.exe) and client software.	4	Web access required.
	Obtain the DCT data file (*.mmdct) for this site.	3	
	Review security considerations.	7	
	Obtain virus-checking software for the MAS if required.	7	Customer obtains.
	Gather the necessary test equipment and tools.	8	
	1 of 6		

Modular Messaging on a customer-provided MAS installation checklist

✔	Description	Page	Comments
	Arrange for initial switch and LAN administration. Register MAS corporate FQDNs on the DNS if required. **Note:** Avaya is not responsible for the installation, administration, or test of communications between customer computers and the LAN.	9	See LAN administrator. Time of administration and site requirements vary.
	Verify that the switch or PBX is administered.	9	See switch administrator.
	Arrange for the Active Directory data schema update.	N/A	Review requirements in Chapters 4 and 5.
	Collect any software media that is needed for the installation, such as MS Windows updates or anti-virus software.	4	Leave customer CDs and DVDs on-site.
Prepare to install the Modular Messaging software: Note: The customer Active Directory administrator may be required to perform these tasks.			
	Create the Modular Messaging customer account security group and customer account on the Active Directory server.	13	
	Create the technical support account on the Active Directory server.	13	
	Create test subscriber accounts on the Active Directory server (set up at least one for each TUI used on the site).	17	
	Assign permissions to the service permissions group.	19	
	Add a computer account for each MAS to the Active Directory server.	26	
	Set up each server for remote access on the Active Directory server.	27	
	Install the Active Directory and data schema updates for Windows 2003.	28	Do this before installing other Modular Messaging software. System restart required.
2 of 6			

Modular Messaging on a customer-provided MAS installation checklist

✔	Description	Page	Comments
	Install the Modular Messaging Exchange subscriber administration extensions on any machine used to administer subscribers (and on Exchange server if required).	30	
Configure a new MAS: Note: The customer domain administrator may be required to perform these tasks.			
	Make sure that you have the required hardware, software, and forms.	56	
	Run recommended disk checks: • Disk Defragmenter system tool • **chkdsk** command	58	
	Disable hyper-threading for IP H.323 configuration.	58	
	Join the server to the MS Windows domain.	63	
	Adjust the following system values: • Event Viewer values • File and Printer Sharing properties • Windows 2003 Server operating system values	59	
	Add the Modular Messaging customer and technical support accounts to the local administrators group for this MAS.	64	
	Install and enable the following Windows software: • Required MS Windows services • MS Windows SP2 (if not already on the server)	60	Requires Microsoft Windows media.
	Install and run the Modular Messaging Configuration Wizard.	65	
	Select a DCT data file (*.mmdct).	66	
	Update Windows Internet Explorer 7 security if necessary.	68	
3 of 6			

Modular Messaging on a customer-provided MAS installation checklist

✔	Description	Page	Comments
	For a system with an Exchange 2003 peer mail server, install third-party software: • Exchange System Management Tools • Exchange Server 2003 SP2 (see comment) • Anti-virus software	70	
	For a system with an Exchange 2007 peer mail server, install third-party software: • MAPI client • Exchange 2007 Management Tools • Exchange Server 2007 SP1 • Additional components as prompted by installation • Anti-virus software	69	
	Complete the MMCW configuration.	70	
	Install software updates.	71	
	Update Microsoft Windows.	57	
	Verify power management settings	71	
	Enter RAS IP addresses on each MAS	72	
	Set the logging location if other than default.	74	
	Administer anti-virus software.	48	
	Configure port boards.	75	
Configure the voice mail system: Note: The customer domain administrator may be required to perform these tasks.			
	Specify languages and verify that the Modular Messaging services are started.	79	For a non-English Windows operating system.
	Configure TUI and access settings.	80	Configuration notes required.
	Configure the broadcast mailbox.	81	
	Configure the PBX type.	83	
	Configure serviceability settings.	83	
	Obtain and install a license for this system.	85	Local procedures vary.
4 of 6			

Modular Messaging on a customer-provided MAS installation checklist

✔	Description	Page	Comments
	Configure specific features: • Call Me service • Notify Me • MWI service • Languages or TTS • Audit Service • MM Fax Service • Offline access to messages	88	Configure features as needed.
	Configure MAS-specific parameters: • INADS alarming (if used) • Port boards and switch integration	94	
	Restart service.	98	
	Verify call-handling capability.	100	
	Verify alarming setup.	100	
	Verify Tracing Service operation.	101	
	Verify Audit Service	101	
	Repeat for any additional MASs.		
Test and back up the system:			
	Add a test subscriber on the directory server for each TUI used at this site.	104	
	Set up monitoring tools: • Operational History Viewer • Port monitor	106	
	Perform acceptance tests: • Create and send a call-answer message. • Retrieve test messages in integrated mode. • Create and send a test message in nonintegrated mode. • Test the outcalling capability. • Create and print a fax message • Run additional tests.	108	Repeat for each MAS that is set up to handle calls.
	Remove the test subscribers from the directory server.	114	
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Modular Messaging on a customer-provided MAS installation checklist

✔	Description	Page	Comments
	Perform a complete DCT analysis of the supplementary server and all MASs.	115	
	Back up the system.	115	Use local procedures.
	Turn the system over to the customer.	116	Be sure to give the customer an updated DCT data file.
6 of 6			

Modular Messaging upgrade on an Avaya MAS

Use this checklist when you upgrade a system with an Avaya MAS that is running Modular Messaging Release 3.0, 3.1, or 4.0 to Modular Messaging Release 5.1. As you complete a procedure, make a check mark in the " ✔ " column.

Note:

If you are adding a new MAS to an existing Modular Messaging system, do the software upgrade first if an upgrade is required. When the upgrade is complete, install the new MAS using the appropriate new installation checklist.

Modular Messaging Avaya MAS upgrade checklist

✔	Description	Page	Comments
Complete pre-upgrade tasks:			
	Assemble and review the required documentation.	5	Web access required.
	Collect any software media that is needed for the upgrade, such as MS Windows updates or anti-virus software.	4	Leave customer CDs and DVDs on-site.
	Schedule downtime for the Exchange server for updating the Modular Messaging Exchange extensions.	122	
	Download required software updates, including the latest version of the DCT executable file (MMDCT.exe) and client software.	125, 4	Web access required.
	Review the considerations for a multiple-MAS upgrade.	122	
	Switch the monitor to show the correct server.	122	
	Verify and save key settings on the MAS. Record the following: • RAS IP addresses for each MAS • Non-default port groups and their names • MM services running on each MAS • SNMP trap destination and community details from the **Serviceability — Voice Mail Domain window**	123	
	1 of 5		

Modular Messaging Avaya MAS upgrade checklist

✔	Description	Page	Comments
	For Release 3.0 upgrade only, record all personal operator schedules.	124	
	If you use this MAS to create, administer, and deploy caller applications, back up all working files to a location other than the MAS. Additionally, ensure that you have on the MAS a current backup of the Caller Apps folder that contains the deployed caller applications that the MAS uses when it is running. Back up all customized tone files, customized prompt files, licensing files, WSO files, and SIP certificates for SIP implementations. Also back up the system state and spool.	124	
	Review configuration notes for any changes that might be needed regarding board configuration, switch programming, and application configuration. Make any necessary changes as part of the upgrade.	124	
	Check for errors or warnings on the system. Resolve major and minor alarms.	124	
	Set expectations and review product functionality with customer.	124	
	Use a DCT data file (*.mmdct), using the DCT executable file (MMDCT.exe) to analyze each MAS.	125	
	Busy out the ports for this MAS.	127	Use PBX procedures.
	Back up the MAS.	127	
	Run recommended disk checks: • Disk Defragmenter system tool • **chkdsk** command	127	
	Log off all remote logins	128	
	Stop Modular Messaging services.	128	
	Update Windows Internet Explorer 7 security	128	
	2 of 5		

Modular Messaging Avaya MAS upgrade checklist

✔	Description	Page	Comments
Upgrade software:			
	Upgrade RealSpeak software	130	Perform this step if you are upgrading from Release 3.x to 5.1.
	Start Modular Messaging services	131	
	Upgrade Dialogic drivers.	131	
	Upgrade MAS software.	132	
Complete server setup:			
	Administer anti-virus software.	135	
	Install software updates.	135	
	Update MS Windows.	136	
	Disable the private LAN.	136	
	Enable ports.	136	
Complete the upgrade:			
	If you have more than one MAS: • Let MAS#1 run for 15 minutes. • Upgrade each additional MAS.	137	
	Configure MM Fax server.	91	Perform this step if you are upgrading from Release 3.x to 5.1.
	Configure Audit service and verify its operation.	91	Perform this step if you are upgrading from Release 3.x to 5.1.
	Configure and activate additional new Release 5.1 features using the Voice Mail Configuration program.		
3 of 5			

Modular Messaging Avaya MAS upgrade checklist

✔	Description	Page	Comments
	Configure the SNMP trap destination and community details using the **Serviceability - Voice Mail Domain** window of the Voice Mail System Configuration program. Enter the SNMP trap destination and community information you recorded before beginning the upgrade.	137	
	Verify all personal operator schedules.	137	Perform this step if you are upgrading from Release 3.0 to 5.1.
	When finished with each MAS, verify that all Modular Messaging services that are required for this MAS are running.	108	
	Update Modular Messaging Active Directory Exchange extensions on any machines where they are installed.	121	
	Update client software on any non-MAS machines where it is installed.	244	As required.
Test and back up the system:			
	Add a test subscriber on the directory server for each TUI used at this site.	104	
	Set up monitoring tools: • Operational History Viewer • Port monitor	106	
	Perform acceptance tests: • Create and send a call-answer message. • Retrieve test messages in integrated mode. • Create and send a test message in nonintegrated mode. • Test the outcalling capability. • Create and print a fax message • Run additional tests.	108	Repeat for each MAS that is set up to handle calls.
	Remove the test subscribers from the directory server.	114	
	Back up the system.	115	Use local procedures.
4 of 5			

Modular Messaging Avaya MAS upgrade checklist

✔	Description	Page	Comments
	Run recommended disk checks: • Disk Defragmenter system tool • **chkdsk** command	115	
	If you are adding a new MAS to the system, begin the installation.		
	Turn the system over to the customer.	116	Be sure to give the customer an updated DCT data file.
5 of 5			

Modular Messaging upgrade on a customer-provided MAS

Use this checklist when you upgrade a system with a customer-provided server that is running Modular Messaging Release 3.0, 3.1, or 4.0 to Modular Messaging Release 5.1. As you complete a procedure, make a check mark in the "✔" column.

Note:

If you are adding a new MAS to an existing Modular Messaging system, do the software upgrade first if an upgrade is required. When the upgrade is complete, install the new MAS using the appropriate new installation checklist.

Modular Messaging CPE server upgrade checklist

✔	Description	Page	Comments
Complete pre-upgrade tasks:			
	If the Exchange extensions must be updated, schedule downtime for the Exchange server.	143	If required.
	Collect any software media that is needed for the upgrade, such as MS Windows updates or anti-virus software.	142	Leave customer CDs and DVDs on-site.
	Assemble and review the required documentation.	142	Web access required.
	Download required software updates, including the latest version of the DCT executable file (MMDCT.exe) and client software.	142, 4	Web access required.
	Review the considerations for a multiple-MAS migration.	144	
	Verify and save key settings on the MAS. Record the following: • RAS IP addresses for each MAS • Non-default port groups and their names • MM services running on each MAS • SNMP trap destination and community details from the **Serviceability — Voice Mail Domain window**	145	
	Record all personal operator schedules. (Release 3.0 upgrade only.)	145	
	Back up caller-applications files on a non-MAS PC.	146	
1 of 4			

Modular Messaging CPE server upgrade checklist

✔	Description	Page	Comments
	Review configuration notes for any changes that might be needed regarding board configuration, switch programming, and application configuration. Make any necessary changes as part of the upgrade.	146	
	Back up all caller applications, customized tone files, customized prompt files, licensing files, WSO files, and SIP certificates for SIP implementations. Also back up the system state and spool.	146	
	Check for errors or warnings on the system. Resolve major and minor alarms.	146	
	Set expectations and review product functionality with customer.	146	
	Run recommended disk checks: • Disk Defragmenter system tool • **chkdsk** command	149	
	Use a DCT data file (*.mmdct) by using the DCT executable file (MMDCT.exe) to analyze each MAS.	146	The DCT data file serves as a backup but is not required for the upgrade. All MASs and Exchange message store must be running normally.
	Busy out the ports for this MAS.	148	Use PBX procedures.
	Back up the MAS.	149	
	Log off all remote logins	150	
	Stop all Modular Messaging services.	150	
	Install MS Windows prerequisite components	151	
	Update Windows Internet Explorer 7 security	151	
Upgrade software:			
	Upgrade RealSpeak software.	153	
	Start Modular Messaging services	154	
	Upgrade Dialogic drivers.	154	
2 of 4			

Modular Messaging CPE server upgrade checklist

✔	Description	Page	Comments
	Upgrade MAS software.	155	
	Install software updates.	158	
	Disable unused MS Windows services on this MAS.		Optional.
	Enable ports.	159	
Complete the upgrade:			
	If you have more than one MAS: • Let MAS#1 run for 15 minutes. • Upgrade each additional MAS.	160	
	Enable and configure MM Fax sender server.	91	
	Configure Audit service and verify its operation.	91	
	Configure and activate additional new Release 5.1 features.		
	Configure the SNMP trap destination and community details using the **Serviceability - Voice Mail Domain** window of the Voice Mail System Configuration program. Enter the SNMP trap destination and community information you recorded before beginning the upgrade.	160	
	Verify all personal operator schedules. (Release 3.0 only.)		
	When finished with each MAS, verify that all Modular Messaging services that are required for this MAS are running.	108	
	Update the Modular Messaging Active Directory Exchange extensions software on any machines where it is installed (including the Exchange server).	143	Most extension updates require a system restart.
	Update client software.	244	Do on each subscriber machine where client software is installed.
	For any MAS that does not have Web Subscriber Options installed, close TCP port 80 to increase system security.		
3 of 4			

Modular Messaging CPE server upgrade checklist

✔	Description	Page	Comments
Test and back up the system:			
	Add a test subscriber on the directory server for each TUI used at this site.	104	MM Aria is the default.
	Set up monitoring tools: • Operational History Viewer • Port monitor	106	Optional.
	Perform acceptance tests: • Create and send a call-answer message. • Retrieve test messages in integrated mode. • Create and send a test message in nonintegrated mode. • Test the outcalling capability. • Create and print a fax message • Run additional tests.	108	Do on each MAS that is set up to handle calls.
	Remove the test subscribers from the directory server.	114	
	Back up the system.	115	Use local procedures.
	Run recommended disk checks: • Disk Defragmenter system tool • **chkdsk** command	116	
	Turn the system over to the customer.	116	Be sure to give the customer an updated DCT data file.
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Modular Messaging migration on an Avaya MAS

Use this checklist when you migrate a system with an Avaya MAS that is running Modular Messaging Release 1.1, 3.x, or 4.0 to Modular Messaging Release 5.1. As you complete a procedure, make a check mark in the " ✔ " column.

Note:

If you are adding a new MAS or a supplementary server to an existing Modular Messaging system to the migrated Modular Messaging system, do the migration of the system first. When the migration is complete, add the new MAS or the supplementary server to the migrated system.

Modular Messaging Avaya MAS migration checklist

✔	Description	Page	Comments
Preparing for the migration:			
	If the Exchange extensions must be updated, schedule downtime for the Exchange server.	165	If required.
	Collect any software media that is needed for the upgrade, such as MS Windows updates or anti-virus software.	164	Leave customer CDs and DVDs on-site.
	Assemble and review the required documentation.	164	Web access required.
	Download required software updates, including the latest version of the DCT executable file (MMDCT.exe) and client software.	164, 4	Web access required.
	Review configuration notes for any changes that might be needed regarding board configuration, switch programming, and application configuration. Make any necessary changes as part of the upgrade.	165	
	Obtain the Exchange System Management Tools and appropriate Service Pack from the customer.		
	Verify and save key settings on the MAS. Record the following: ● RAS IP addresses for each MAS ● Non-default port groups and their names ● MM services running on each MAS ● SNMP trap destination and community details from the **Serviceability — Voice Mail Domain window**	167	
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Modular Messaging Avaya MAS migration checklist

✔	Description	Page	Comments
	Record all personal operator schedules.	167	
	Add the MAS to the system.	165	
	If you use this MAS to create, administer, and deploy caller applications, back up all working files to a location other than the MAS.	168	
	Back up all caller applications, customized tone files, customized prompt files, licensing files, WSO files, and SIP certificates for SIP implementations. Also back up the system state and spool.	168	
	Check for errors or warnings on the system. Resolve major and minor alarms.	168	
	Review product functionality with customer.	168	
	Configure the port boards.	165	
	Disable and move the Modular Messaging services.	165	
	Test and back up the new MASs.	165	
	Remove the old MASs from the VMD.	166	
	Consideration for multiple-MAS migration.	166	
	Analyze the existing system.	167	
	Verify and save data.	167	
	Backup the MAS.	168	
Configuring the S8730 server:			
	Add the new S8730 server to the VMD.	169	
	Update the Microsoft Windows Internet Explorer security	172	
	Install third-party software.	172	
	Complete the MMCW configuration.	173	
	Stop all Modular Messaging services	181	
Complete MAS configuration:			
2 of 4			

Modular Messaging Avaya MAS migration checklist

✔	Description	Page	Comments
	Administer anti-virus software	173	
	Install Modular Messaging software updates.	175	
	Update MS Windows.	175	
	Change the default LAN name and Power Management settings.	176	
	Disable the private LAN	176	
	Enter RAS IP addresses on each MAS	177	
	Busy out the ports for this MAS.	180	Use PBX procedures.
	Configure port boards, if needed.	179	
	Disable Modular Messaging services	181	
Complete the migration:			
	Move the services.	181	
	Restore the data.	181	Optional.
	Back up each MAS.	163	
	Power off the server.	181	
Testing and backing up the system:			
	Add a test subscriber for each TUI used at this site.	104	
	Set up monitoring tools: • Operational History Viewer • Port monitor	106	
	Perform acceptance tests: • Create and send a call-answer message. • Retrieve test messages in integrated mode. • Create and send a test message in nonintegrated mode. • Test the outcalling capability. • Run additional tests.	108	
	Remove the test subscribers.	114	

Modular Messaging Avaya MAS migration checklist

✔	Description	Page	Comments
	Perform a complete DCT analysis of all MASs and the Supplementary server.	163	
	Back up the system.	115	
	Run recommended disk checks: • Disk Defragmenter system tool • **chkdsk** command	116	
	Turn the system over to the customer.	116	
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Modular Messaging migration on a customer-provided MAS

Use this checklist when you migrate a system with a customer-provided MAS that is running Modular Messaging Release 1.1, 3.x, or 4.0 to Modular Messaging Release 5.1. As you complete a procedure, make a check mark in the " ✔ " column.

Note:

If you are adding a new MAS or a supplementary server to an existing Modular Messaging system to the migrated Modular Messaging system, do the migration of the system first. When the migration is complete, add the new MAS or the supplementary server to the migrated system.

Modular Messaging CPE server migration checklist

✔	Description	Page	Comments
Prepare for the migration:			
	If the Exchange extensions must be updated, schedule downtime for the Exchange server.	188	If required.
	Collect any software media that is needed for the upgrade, such as MS Windows updates or anti-virus software.	186	Leave customer CDs and DVDs on-site.
	Assemble and review the required documentation.	186	Web access required.
	Download required software updates, including the latest version of the DCT executable file (MMDCT.exe) and client software.	186, 4	Web access required.
	Review the configuration notes.	187	
	Obtain the Exchange System Management Tools and appropriate Service Pack from the customer.	56	
	Verify and save the data, run recommended disk checks and verify a DCT data file (*.mmdct).	187	
	Back up the MAS to be replaced.	187	
	Add the CPE MAS to the system.	187	
	Switch the monitor to show the correct server.	191	
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Modular Messaging CPE server migration checklist

✔	Description	Page	Comments
	Verify and save key settings on the MAS. Record the following: • RAS IP addresses for each MAS • Non-default port groups and their names • MM services running on each MAS • SNMP trap destination and community details from the **Serviceability — Voice Mail Domain window**	197	
	Configure the port boards.	187	
	Disable and move the Modular Messaging services.	187	
	Test and backup the new MASs.	188	
	Remove the old MASs from the VMD.	188	
	Consideration for multiple-MAS migration.	188	
Prepare CPE server:			
	Install Microsoft Windows 2003.	189	
	Set the computer name.	189	
	Configure network card.	190	
	Run recommended disk checks.	190	
	Disable hyper-threading for IP H.323	190	
	Install modem drivers.	190	
Set up the CPE server:			
	Join the Windows domain	191	
	Adjust system values	192	
	Add the Modular Messaging accounts to the Administrator groups.	194	
Install Microsoft Windows services:			
	Install Microsoft Windows 2003 SP2	189	
Migrate each MAS:			
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Modular Messaging CPE server migration checklist

✔	Description	Page	Comments
	Analyze the existing data.	197	
	Verify and save data U	197	
	Back up each MAS	198	
	Run the MMCW configuration.	199	
	Update the Windows Internet Explorer 7 security.	203	
	Install third-party software	203	
	Complete the MMCW configuration.	205	
Complete the MAS configuration:			
	Administer anti-virus software.	204	
	Install Modular Messaging software updates	206	
	Update Microsoft Windows software	206	
	Verify Power Management settings.	207	
	Enter RAS IP addresses on each MAS	207	
	Set logging locations.	209	
	Busy out the ports for this MAS.	211	
	Disable Modular Messaging services.	212	
Complete the migration:			
	Move the services	213	
	Restore the data	213	
	Back up each MAS	185	
	Power off the server	213	
Test and back up the system:			
	Add a test subscriber for each TUI used at this site.	104	
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Modular Messaging CPE server migration checklist

✔	Description	Page	Comments
	Perform acceptance tests: • Create and send a call-answer message. • Retrieve test messages in integrated mode. • Create and send a test message in nonintegrated mode. • Test the outcalling capability. • Create and print a fax message • Run additional tests.	108	Do on each MAS that is set up to handle calls.
	Remove the test subscribers from the directory server.	114	
	Perform a complete DCT analysis of all MASs and the Supplementary server.	185	
	Back up the system.	115	Use local procedures.
	Run recommended disk checks: • Disk Defragmenter system tool • **chkdsk** command	116	
	Turn the system over to the customer.	116	Be sure to give the customer an updated DCT data file.
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Appendix B: Post-installation procedures for Modular Messaging

This appendix describes how to configure the Modular Messaging system after the installation is complete.

This appendix contains three procedures:

Updating client software: The Modular Messaging client software packages must be updated on each subscriber machine where they are already installed.

Converting Supplementary server to run a 0 port MAS on the Supplementary server: This procedure should be performed by a technician on the site to convert supplementary server to run 0 port MAS.

Changing switch integration: Perform this procedure on the site to change switch integration after an upgrade of the MAS, if required.

Topics in this appendix include:

- Updating client software on page 244
- Disabling Modular Messaging services you plan to move on page 245
- Moving Modular Messaging services among servers on page 247
- Enabling the services on the correct server on page 253
- Completing the move services procedure on page 256
- Converting Supplementary server to run a 0 port MAS on the Supplementary server on page 257
- Changing switch integration on page 259

Updating client software

Note:

Always check the Avaya Support Web site at http://www.avaya.com/support for the latest Modular Messaging Client software package.

Do this task on each subscriber machine where client software is installed.

The Modular Messaging client software packages must be updated on each subscriber machine where they are already installed.

To update the client software to the latest release, use the normal software installation procedures for this site. For example:

1. If you have not already done so, download the most recent version of the client software package from the support website. When you download the software, copy it to a USB storage device.
2. Insert the USB storage device with the client software into any USB port on the subscriber machine where a Modular Messaging client software package from the previous release is installed.
3. Log on to the subscriber machine. You must use an account with administrator rights to install software (such as the local administrator account for the client machine).
   a. Navigate to the directory where you saved the client software on the USB storage device.
   b. Double-click the **setup.exe** file.
   c. The Avaya Modular Messaging Client Installation Wizard runs. Follow the prompts.
4. Repeat this procedure until all existing versions of client software have been replaced with the latest version for the release.

For details on installing or using a client software package, see the appropriate user guide.

Disabling Modular Messaging services you plan to move

Before you move any Modular Messaging services, you must disable the service to be moved on the server where it is currently running.

CAUTION:

You must set any **MM** services that you intend to move to another server to **Disabled** before you enable them on a different server. Serious problems occur if you activate a service that is supposed to run on only one server in the VMD on multiple servers.

To disable services to be moved on the server where the service is currently running:

1. Log on to each server that you intend to move Modular Messaging services from.
2. Double-click the **Monitor** icon on the desktop.
3. Click **Services (Local)** in the left pane.
4. In the right pane of the Monitor window, scroll down to the service you plan to move.
   a. Right-click the service and select **Stop**.
   b. Double-click the service to open the **Properties** window.
   c. Set the **Startup type** to **Disabled**.
   d. Click **OK**.
5. Repeat Step 4 to disable each service you intend to move. Services you can move include:
   - MM Call Me—must be on the same server with the Mailbox Monitor Server
   - MM Mailbox Monitor—must be on the same server with either Call Me or MWI
   - MM MWI—must be on the same server with the Mailbox Monitor Server
   - MM Fax Sender Service —enable on a server with voice ports that support Fax calls
   - MM Auditing Service—enable on each server in the VMD
   - MM Tracing Server—must be enabled on only one server at a time in the VMD
6. Refresh the screen to verify that all **MM** services that you plan to move are **Disabled**.
7. Repeat this procedure on the next MAS, if the Modular Messaging services to be moved reside on more than one server.
8. If you are moving Fax Sender service, complete the following steps to stop sharing the Microsoft Fax Printer on the MAS the service is being moved from:
   a. Click **Start** > **Settings** > **Printers and Faxes**.
   b. In the **Printers and Faxes** window, right-click the Fax and select **Properties**.
   c. Click the **Sharing** tab.

d. Remove the check from the **Share this printer** check box and click **OK**.
e. Exit all windows.

Moving Modular Messaging services among servers

To move services:

1. Log on to the supplementary server you intend to move Modular Messaging services to.
2. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration**.
3. Move the following services as required:
   - Moving Call Me, MWI, and Mailbox Monitor on page 247
   - Moving MM Fax Sender service on page 249
   - Moving Audit service on page 251
   - Moving Tracing Server service on page 251

Moving Call Me, MWI, and Mailbox Monitor

You must enable the Call Me Server, Message Waiting Indicator (MWI) Server, and Mailbox Monitor services only once in the voice mail domain. All three services must be enabled on the same server, or serious problems will occur.

Updating the Call Me Server

To change the Call Me Server parameters:

1. Under the voice mail domain, such as *vmdom*, double-click **Call Me**.
2. In the Call Me - Voice Mail Domain window, on the **General** tab, click the check box to **Enable Call Me**.
3. For **MAS Call Me Server**, specify the server on which to enable the Call Me service:
   a. Click the **...** button next to the field.
   b. In the **Select Computer** window, double-click the name of the supplementary server.
   c. Click **OK** to close this window.

   Note:

   Because Call Me Server and Message Waiting Indicator (MWI) Server both use the Mailbox Monitor Server, you must enable both services on the same server.

Updating the MWI Server

To change the Message Waiting Indicator (MWI) Server parameters:

1. Under the voice mail domain double-click **Message Waiting Indicator**.
2. In the **Message Waiting Indicator - Voice Mail Domain** window, on the **General** tab, click the check box to **Enable Message Waiting Indicator (MWI)**.
3. For **MAS MWI server**, specify the server on which to enable the MWI Server:
   a. Click the **...** button next to the field.
   b. In the **Select Computer** window, double-click the name of the server.
4. For the **Limit requests** and **Maximum requests per minute** fields, use the values specified in the configuration notes for your PBX integration type.
5. In the **Messaging Application Servers that support MWI** box, list all MASs that have a port group set up to support MWI. To add a server name:
   a. Double-click inside the top of the big list box, or click the **Add** button just above the list box. The **Add** button looks like a dashed box.
   b. The list box displays a data entry field and a **...** button. Click the **...** button.
   c. In the **Select Computer** window, double-click the name of each MAS that has ports allocated to support MWI.
   d. Repeat Steps b and c to add any other MASs that support MWI.
   e. Click **OK** to close the **Select Computer** window.

   Note:

   The arrow icons move the selected MAS up or down the list. MWI requests start with the first MAS in the list, and continue to each additional MAS if needed.
6. Click **OK** to close this window.

Updating the MAS port groups

Update the MAS port groups as required:

1. In the **Voice Mail System Configuration** window, expand **Message Application Servers**.
2. Expand the entry for this MAS.
3. Double-click **Port Groups**. Update the values as required.

   For example, you might move all the MWI ports to the new server. Depending on the integration type, you might leave the MWI ports that are already active enabled. You can then add MWI ports to the new server to increase the ports available for MWI.
4. If required, expand the entries for the other servers in the system. Return to Step 2, and update the **Port Groups** for each server as required.

Moving MM Fax Sender service

The supplementary server is **not** an Avaya-recommended location for the fax service as it is recommended for the fax service to run on a system that has voice boards. IP H.323 switch integration does not support fax service. To move MM Fax Sender service:

- Enable MM Fax Sender service on the new location
- Remove the MM Fax Printer from the old location
- Share the MM Fax Printer on the new location
- Stop MM Fax Sender on the old location
- Start MM Fax Sender on the new location
- Configure dialing rules on the new location
- Configure the new MM Fax Sender server using VMSC

Enable MM Fax Sender service on the MAS that will now host MM Fax Sender service:

1. Run **C:\Avaya_Support\Utils\FaxSenderEnable.exe** on the MAS that will now host MM Fax Sender.
2. Restart the Microsoft Fax Service.

Remove the MM Fax Printer from the MAS that will no longer host MM Fax Sender service:

1. Click **Start > Settings > Printers and Faxes**.
2. In the Printers and Faxes window, right-click the Fax and select **Properties**.
3. Click the **Security** tab.
4. Remove the Network Service user.
5. Click the **Sharing** tab.
6. Remove the **Share this printer** check from the check box.
7. Click the **Security** tab.
8. Remove any Fax permissions.

Share the MM Fax Printer on the MAS that will now host MM Fax Sender:

1. Verify that Windows Fax Service is **Started** and set to **Automatic**.
2. Click **Start > Settings > Printers and Faxes**.
3. In the Printers and Faxes window, right-click the Fax and select **Properties**.
4. Click the **Security** tab.
5. Add the Network Service user and assign that user **Print**, **Manage Printers**, and **Manage Documents** permissions.
6. Click the **Sharing** tab.

7. Click the **Share this printer** check box. Leave the share name as Fax.
8. Click the **Security** tab.
9. Verify that **Everyone** is assigned Fax permissions on the share.

Complete the following steps to assign permissions to the Fax Service Manager:

1. Select the **Configuration** tab.
2. Select **Fax Service Manager**.
3. Right-click **Fax (local)** and select **Properties**.
4. Click the **Security** tab.
5. Add the Network Service Account to the list of users and groups with access
6. Assign **Fax**, **Manage Fax Configuration** and **Manage Fax Documents** permissions to the Network Service Account.
7. Ensure that **Everyone** is assigned **Fax** permissions for the Fax Service Manager.
8. Exit all windows.

Note:

To reduce access to the Fax printer share, remove the Everyone group and add Fax permission to the Active Directory Users or Groups you want to have access to print faxes using the MM Fax Printer.

Start MM Fax Sender on the MAS that will now host it:

1. Disable MM Fax Sender on the server that was previously running it; see Disabling Modular Messaging services you plan to move on page 245
2. Open the Monitor window on the MAS that will now host MM Fax Sender.
3. Click **Services (Local)** in the left pane, if the item is not already selected.
4. In the right pane, scroll down to **MM Fax Sender Server**.
5. Right-click **MM Fax Sender Server** and select **Start**.
6. Double-click **MM Fax Sender Server** to open the Properties window.
7. Set the **Startup type** to **Automatic**.
8. Click **OK** and then close the Monitor window.

Create the Phone and Modem dialing rule on the MAS that will now host MM Fax Sender:

1. On the on the MAS that will now host MM Fax Sender, click **Start** > **Settings** > **Control Panel** > **Phone and Modem Options**.
2. If a dialing rule is not already created, click **New** in the Dialing Rules tab.
3. Specify the location details and the dialing rules for the MAS.
4. Click **OK** to save the dialing rule and close the New Location window.
5. Click **OK**.

Configure MM Fax Sender on the new location:

1. In the **Voice Mail System Configuration** window, under the voice mail domain, such as *vmdom*, double-click **Fax**.
2. In the Fax - Voice Mail Domain window, on the **General** tab:
   a. Next to **MM Fax Sender server,** click **Browse**.
   b. In the Select Computer window, enter the name of the MAS you now chose as your MM Fax Sender server.
   c. Click **Check Names**.
   d. Click **OK** to accept the MAS name and close the window.
3. Click **OK** to close the Fax - Voice Mail Domain window.
4. On the "resart" window, click **OK**.

Moving Audit service

Audit service is installed on each MAS in the VMD. Complete the following steps to change the MAS that will act as the MM Audit Server:

1. Under the voice mail domain double-click **Auditing**.
2. In the **Auditing - Voice Mail Domain** window, on the **General** tab, click the check box to **Enable Auditing**.
3. In the **Audit server** field, enter the name of the server that you want to run the MM Audit service, or use the browse button (...) to select the name.
4. In the **Database server** field, enter the name of the server where the database resides or use the browse button (...) to select the server.
5. Click **OK** to close this window.

Moving Tracing Server service

To move the Tracing Server service to a different server:

1. Log on to the supplementary server that you intend to move the Tracing Server service to.

   Note:

   You must have already disabled the Tracing Server service on the server that was previously running it. For more information, see Disabling Modular Messaging services you plan to move on page 245.

2. Enable the new instance of the Tracing Server service:
   a. Double-click the **Monitor** icon on the desktop.

b. Click **Services (Local)** in the left pane.

c. In the right pane, scroll down to the list of Modular Messaging services.

d. Double-click the **MM Tracing Server** service to open the **Properties** window.

1. Set the **Startup type** to **Enabled**.
2. Click **OK**.

e. In the Monitor window, right-click **MM Tracing Server** and select **Start**.

3. Access the Voice Mail System Configuration program. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Voice Mail System Configuration**.
4. Under the voice mail domain double-click **Tracing System**.
5. The system displays a warning that the current Home Message Application Server is not valid. Click **OK**.
6. In the **Tracing System - Voice Mail Domain** window, on the **General** tab:
   - The **MAS Tracing Server Machine Name** field displays the name of the server that is now running the tracing system. The new server can be an MAS or a supplementary tracing server.
   - The **Home Message Application Server** field shows the first MAS that the tracing system connects to when doing an operation. You do not have to update this field.
7. Click **OK** to close this window.
8. Remove the scheduled tasks from the server that previously hosted the Tracing Service:

a. Click **Start** > **Run** to open the Run window.

b. In the **Open** field, type the following and press **Enter**:

C:\Avaya_Support\Tools\Tracing\RemoveSchedTasks.exe

CAUTION:

This script automatically removes the tasks that were assigned to the original tracing server, so you do not have to set up the scheduled tasks again on the new server. If you fail to run this script after you move Tracing Service from one server to another, errors occur when the originally scheduled tasks fail.

Enabling the services on the correct server

After you set up the services correctly in the VMSC, you must enable the services on the appropriate servers. You must stop all Modular Messaging services to do this task.

Stopping all Modular Messaging services

You must stop all Modular Messaging services on all servers that you are moving services to or from. Stopping and then restarting all services gets the entire voice mail domain configured with the correct services running on the correct servers.

To stop all Modular Messaging services:

1. Switch the monitor to show the first MAS.
2. Stop all Modular Messaging services as follows:
   a. Click **Start** > **Run** to open the Run window.
   b. In the **Open** field, type the following and press **Enter**:

      C:\Avaya_Support\Tools\ServiceControl\StopMMServices.exe

      A command window displays the status of the Modular Messaging services shutdown. The script might take several minutes to complete.

      Note:

      This script also stops Dialogic services and some Windows services.
3. Confirm that all Modular Messaging services are stopped:
   a. Double-click the **Monitor** icon on the desktop.
   b. Click **Services (Local)** in the left pane.
   c. In the right pane, scroll down to the list of installed Modular Messaging services. These all start with the abbreviation **MM**.
   d. Verify that the **Status** column is blank. If any service is *not* stopped, repeat Steps 2 and 3.
4. Repeat this procedure on each server that you are moving services to or from.

Enabling the appropriate services

After all Modular Messaging services are stopped, you must enable the appropriate services on each server. To enable the appropriate Modular Messaging services:

1. In the Monitor window, click **Services (Local)** in the left pane.

2. In the right pane, scroll down to the list of Modular Messaging services. These services start with the abbreviation **MM**.

CAUTION:

Verify that you enable and disable the correct services on the supplementary server. Enable some Modular Messaging services only once in a voice mail domain, or serious problems will occur. For more information, see Table 3.

Table 3: When to enable Modular Messaging services in a VMD

Modular Messaging service name	Condition for enabling service [1]
MM Messaging Application Server	Enable on each MAS that handles calls. Do not enable on the supplementary server.
MM Alarming Server MM Audit Service MM Event Monitor Server MM Fault Monitor MM Performance Monitor Server MM Process Monitor Server MM Service Connector	Enable this set of services on each server in the voice mail domain.
MM Call Me [2] MM Fax Server[3] MM Mailbox Monitor [2] MM MWI [2] MM Tracing Server	Enable this set of services *only once* in each voice mail domain, either on an MAS or on the supplementary tracing server. Enable MM Fax Server on a server with voice ports that support Fax calls.

1. Each enabled service must have a startup type of **Automatic** and show a status of **Started**.
2. The Call Me, MWI, and Mailbox Monitor services always must be enabled on the same server.
3. Fax Sender service must be co-resident with the MM Fax Service Provider (MM FSP).

3. To enable an **MM** service on this server:
   a. Double-click the service to open the Properties window.
   b. Set the **Startup type** to **Automatic**.
   c. Click **OK**.
   d. Repeat Step 3 to update the status for each MM service as required.
4. To disable an **MM** service on this server:
   a. Double-click the service to open the Properties window.
   b. Set the **Startup type** to **Disabled**.
   c. Click **OK**.

d. Repeat Step 4 to update the status for each MM service as required.

5. Refresh the screen. Verify that the **Status** column shows the correct state for each Modular Messaging service.
   - Services that are required for this server must show a startup type of **Automatic**.
   - Services that are *not* required on this server must show a blank status and a startup type of **Disabled**.

   CAUTION:

   You must set all **MM** services to the correct state before you restart Modular Messaging services. Serious problems occur if you activate a service that is supposed to run on only one server in the VMD on multiple servers.

6. Repeat this procedure on each server that you are moving services to or from.

Restarting messaging service

After you verify and update all required settings on all servers in the voice mail domain, you must restart the services on each server.

To restart messaging service:

1. Click **Start** > **Run** to open the Run window.
2. In the **Open** field, type the following and press **Enter**:

   C:\Avaya_Support\Scripts\serverrecovery.vbs

   The script takes a few seconds to run. The program sets up all **MM** services correctly.
3. Refresh the screen to verify that all **MM** services required for this server are **Started** and set to **Automatic**.
4. If any required **MM** services are not set up correctly, return to Enabling the appropriate services on page 253. Correct the problem, and then restart service again.
5. Restart all Modular Messaging services on each Modular Messaging server in the voice mail domain after you finish moving services. A restart ensures that the voice mail domain-wide properties are consistent across the VMD.

Completing the move services procedure

To complete the procedure for moving Modular Messaging services:

1. Verify basic server operation and do the appropriate acceptance tests. For more information, see Chapter 7: Testing and backing up the system on page 103.
2. Because you moved Modular Messaging services, the DCT data file currently on the system is now out of date. To update the system configuration data:
   a. Use the most recent DCT data file, which is on your USB storage device.
   b. Use the DCT executable file (MMDCT.exe) to analyze all the servers in the system again. For more information.
3. Update and turn over the DCT data file. Send a copy of the most current DCT data file to the appropriate technical support group. Afterwards, erase the copy of the DCT data file from your USB storage device.

Converting Supplementary server to run a 0 port MAS on the Supplementary server

This section is optional, you only need to complete this procedure if your Modular Messaging support organization has advised you to do so.

Use the following steps on the Supplementary server to convert the Supplementary server to run a 0 port MAS on the Supplementary server:

Note:

These steps only need to be completed on supplementary severs, which have been upgraded to Modular Messaging Release 5.1.

1. Run the registry file, ***C:\Avaya_Support\Registry_Keys\convertsupp_2_0portmas.reg.***
2. Set the MM MAS service to **Automatic**. *Do not* start the service at this time.
3. Ensure that the MM Service Connector service is set to **Automatic**. *Do not* start the service at this time.
4. Ensure that the MM Fault Monitor service is set to **Automatic.** Do not start the service at this time.
5. Ensure that the following MM Alarming Services are set to **Automatic**:
   - MM Alarming Server
   - MM Event Monitor Server
   - MM Performance Monitor Server
   - MM Process Monitor Server

   Do not start the services at this time.
6. Locate and run ***gvconfig.exe***:
   a. Locate and run ***C:\Program Files\Avaya Modular Messaging\VServer\Config\ gvconfig.exe*** file.
   b. When prompted, enter the name of the **Peer Message Storage Server** for your system.
   c. Click **Next**.
   d. When prompted, select **Subsequent Server** in an existing VMD
   e. Click **Next**.
   f. Enter the LDAP Security Password for your Modular Messaging system.
   g. Click **Next**.
   h. Click the name of your MM VMD from the drop-down list.
   i. Click **Next**.

j. If the system prompts you to install missing prompts, insert the **Avaya Modular Messaging R5.1 MAS Application DVD 1 of 2** disk in to the Supplementary server DVD drive.

k. Click **Next**.

l. Select the **Skip Caller Application deployment** check box.

m. Click **Next**.

n. Click **Next** on **User Information** screen.

   This **User Information** screen remains displayed and disabled while user information is populated on the server. The time taken to populate the user information depends on the number of users supported by the MM System.

o. Click **Finish**.

7. Double-click the ***C:\Avaya_Support\Tools\ServiceControl\StopMMServices.exe*** file to stop all MM services.
8. Double-click the ***C:\Avaya_Support\Scripts\serverrecovery.vbs*** file to start all MM services.

Changing switch integration

This topic describes how to change the switch integration after an upgrade. This assumes you only change the switch integration type of the MASs and that MAS servers remain the same. These procedures vary with the type of switch integration involved:

- Changing from DSE or Analog to QSIG on page 259
- Changing from DSE or QSIG to H.323 on page 260
- Changing from DSE or QSIG to SIP on page 262
- Changing from QSIG T1 to QSIG E1 on page 263
- Changing from H.323 to SIP on page 264

If changing from H.323 to QSIG, contact support for instructions.

Changing from DSE or Analog to QSIG

The following explains how to change from the DSE or Analog switch integration to the QSIG switch integration:

1. Upgrade all MASs in the Voice Mail Domain (VMD) to Release 5.1 as explained in this chapter.
2. Using VMSC, complete the following changes to the switch integration and telephony interface settings for the MAS you plan to move to QSIG:
   a. Set Switch Integration to **None**.
   b. Set number of ports to **0**.
3. Set all MM services that are running on the MAS to Manual:
   a. Double-click the **Monitor** icon on the desktop or from command prompt, run ***services.msc***.
   b. Select **Services (Local)** in the left pane.
   c. In the right pane, scroll down to the list of Modular Messaging services.

      These services start with the abbreviation **MM**.
   d. Double-click the service to open the **Properties** window.
   e. Set the **Startup type** to **Manual**.
   f. Click **OK**.
   g. Repeat this procedure for all appropriate **MM** services.
4. Shut down the MAS.

5. Remove the Dialogic boards from the MAS.

   See the *Avaya Modular Messaging S3500-Family Hardware Maintenance and Additions* for board removal and installation.

6. Start the MAS without any Dialogic boards installed.
7. Shut down the MAS.
8. Install the Dialogic QSIG boards into the MAS and connect the QSIG trunks to each Dialogic board.
9. Start the MAS.
10. Configure the boards using DCM; see Configuring port boards on page 295.
11. Start the MAS service:
    a. Once configured, double-click the **Monitor** icon on the desktop or from command prompt, run ***services.msc***.
    b. Select **Services (Local)** in the left pane, if the item is not already selected.
    c. In the right pane, scroll down to **MM Messaging Application Server**.
    d. Right-click **MM Messaging Application Server** and select **Start**.
12. Using VMSC, configure the Switch Integration and the telephony interface settings for the MAS to match the recommended settings in the QSIG Switch Configuration note (for note information, see the Avaya Support Web site at http://www.avaya.com/support).
13. Restart the messaging service and set all services to **Automatic**; see Restarting messaging service on page 255.
14. Test the QSIG integration; see Verifying call-handling capability on page 100.
15. Repeat steps 2 through 14 for each of the remaining MASs you are moving to a QSIG integration.
16. After you confirm that the new switch integration is working on the MASs, create and verify the DCT for all MASs in your VMD; see Using the DCT to collect information from an MAS on page 125.

Changing from DSE or QSIG to H.323

The following explains how to change from the DSE or QSIG switch integration to the H.323 switch integration:

1. Upgrade all MASs in the Voice Mail Domain (VMD) to Release 5.1 as explained in this chapter.
2. Using VMSC, complete the following changes to the switch integration and telephony interface settings for the MAS you plan to move to H.323:
   a. Set Switch Integration to **None**.

b. Set number of ports to **0**.

3. Set all MM services that are running on the MAS to Manual:
   a. Double-click the **Monitor** icon on the desktop or from the command prompt, run ***services.msc***.
   b. Select **Services (Local)** in the left pane.
   c. In the right pane, scroll down to the list of Modular Messaging services.

      These services start with the abbreviation **MM**.
   d. Double-click the service to open the **Properties** window.
   e. Set the **Startup type** to **Manual**.
   f. Click **OK**.
   g. Repeat this procedure for all appropriate **MM** services.
4. Shutdown the MAS.
5. Remove the Dialogic boards from the MAS.

   See the *Avaya Modular Messaging S8730-Family Hardware Maintenance and Additions* for board removal.
6. Start the MAS.
7. Start the MAS service:
   a. Double-click the **Monitor** icon on the desktop or from command prompt, run ***services.msc***.
   b. Select **Services (Local)** in the left pane, if the item is not already selected.
   c. In the right pane, scroll down to **MM Messaging Application Server**.
   d. Right-click **MM Messaging Application Server** and select **Start**.
8. Using VMSC, configure the Switch Integration and the telephony interface settings for the MAS to match the recommended settings in the H.323 Switch Configuration note (for note information, see the Avaya Support Web site at http://www.avaya.com/support).
9. Restart the messaging service and set all services to **Automatic**; see Restarting messaging service on page 255.
10. After the messaging service has restarted and the system has produced the NT Application 1241 event, run the utility **`C:\Avaya_Support\Tools\ConfigureMMIPSEC\ConfigureMMIPSEC.exe`**
11. Test the H.323 integration; see Verifying call-handling capability on page 100.
12. Repeat steps 2 through 14 for each of the remaining MASs you are moving to a H.323 integration.
13. After you confirm that the new switch integration is working on the MASs, create and verify the DCT for all MASs in your VMD; see Using the DCT to collect information from an MAS on page 125.

Changing from DSE or QSIG to SIP

The following explains how to change from the DSE or QSIG integration to the SIP switch integration:

1. Create and verify the DCT for all MASs in your VMD; see Using the DCT to collect information from an MAS on page 125.

   You will not be changing the Switch Integration type at this time.

2. Upgrade all MASs in the Voice Mail Domain (VMD) to Release 5.1 as explained in this chapter.
3. After completing the upgrade, use the VMSC to apply your new Modular Messaging Release 5.1 license, which will include the SIP certificate; see Obtaining and installing a license on MAS#1 on page 85.
4. Using VMSC, change the Switch Integration type to SIP for the MAS (start with MAS#1) and make all VMSC configuration changes as documented in the SIP Switch Integration Configuration note (for note information, see the Avaya Support Web site at http://www.avaya.com/support).
5. Using VMSC, change the number of ports for the MAS to the number of ports required with your SIP integration.
6. Restart the messaging service and set all services to **Automatic**; see Restarting messaging service on page 255.
7. After the messaging service has restarted and the system has produced the NT Application 1241 event, run the utility **`C:\Avaya_Support\Tools\ConfigureMMIPSEC\ConfigureMMIPSEC.exe`**
8. Test the SIP integration; see Verifying call-handling capability on page 100.
9. Shut down the MAS.
10. Remove the Dialogic boards from the MAS.

    See *Avaya Modular Messaging S8730-Family Hardware Maintenance and Additions* guide for information on board removal.

11. Start the MAS without any Dialogic boards installed.
12. Ensure that all MM Services start up properly.
13. Repeat steps 4 through 12 for each MAS you plan to move to the SIP integration.
14. Create and verify the DCT for all MASs in your VMD; see Using the DCT to collect information from an MAS on page 125.

Changing from QSIG T1 to QSIG E1

The following explains how to change from the QSIG T1 to the QSIG E1 switch integration:

1. Upgrade all MASs in the Voice Mail Domain (VMD) to Release 5.1 as explained in this chapter.
2. Using VMSC, complete the following changes to the switch integration and telephony interface settings for the MAS you plan to move to QSIG:
   a. Set Switch Integration to **None**.
   b. Set number of ports to **0**.
3. Set all MM services that are running on the MAS to Manual:
   a. Double-click the **Monitor** icon on the desktop or from the command prompt, run ***services.msc***.
   b. Select **Services (Local)** in the left pane.
   c. In the right pane, scroll down to the list of Modular Messaging services.

      These services start with the abbreviation **MM**.
   d. Double-click the service to open the Properties window.
   e. Set the **Startup type** to **Manual**.
   f. Click **OK**.
   g. Repeat this procedure for all appropriate **MM** services.
4. Shutdown the MAS.
5. Remove the Dialogic boards from the MAS.

   See the *Avaya Modular Messaging S8730-Family Hardware Maintenance and Additions* guide for information on board removal and installation.
6. Start the MAS without any Dialogic boards installed.
7. Shutdown the MAS.
8. Install the Dialogic QSIG E1 boards into the MAS and connect the QSIG E1 trunks to each Dialogic board.
9. Start the MAS.
10. Configure the boards using DCM; see Configuring port boards on page 295.

11. Start the MAS service:
    a. Once the port boards are configured, double-click the **Monitor** icon on the desktop or from the command prompt, run ***services.msc***.
    b. Select **Services (Local)** in the left pane, if the item is not already selected.
    c. In the right pane, scroll down to **MM Messaging Application Server**.
    d. Right-click **MM Messaging Application Server** and select **Start**.
12. Using VMSC, configure the Switch Integration and the telephony interface settings for the MAS to match the recommended settings in the QSIG E1 Switch Configuration note (for note information, see the Avaya Support Web site at http://www.avaya.com/support).
13. Restart the messaging service and set all services to **Automatic**; see Restarting messaging services on page 98.
14. Test the QSIG integration; see Verifying call-handling capability on page 100.
15. Repeat steps 2 through 14 for each of the remaining MASs you are moving to a QSIG integration.
16. After you confirm that the new switch integration is working on the MASs, create and verify the DCT for all MASs in your VMD; see Using the DCT to collect information from an MAS on page 125.

Changing from H.323 to SIP

The following explains how to change from the H.323 to the SIP switch integration:

1. Upgrade all MASs in the Voice Mail Domain (VMD) to Release 5.1 as explained in this chapter.
2. After completing the upgrade, use the VMSC to apply your new Modular Messaging Release 5.1 license, which will include the SIP certificate; see Obtaining and installing a license on MAS#1 on page 85.
3. Using VMSC, change the Switch Integration type to SIP for the MAS (start with MAS#1) and make all VMSC configuration changes as documented in the SIP Switch Integration Configuration note (for note information, see the Avaya Support Web site at http://www.avaya.com/support).
4. Using VMSC, change the number of ports for the MAS to the number of ports required with your SIP integration.
5. Restart the messaging service and set all services to **Automatic**; see Restarting messaging services on page 98.
6. After the messaging service has restarted and the system has produced the NT Application 1241 event, run the utility **`C:\Avaya_Support\Tools\ConfigureMMIPSEC\ConfigureMMIPSEC.exe`**

7. Test the SIP integration; see Verifying call-handling capability on page 100.
8. Repeat steps 3 through 7 for each MAS in the VMD you plan to move to the SIP integration.
9. Create and verify the DCT for all MASs in your VMD; see Using the DCT to collect information from an MAS on page 125.

Appendix C: Creating a new tone file

This appendix describes how to build a tone file for Dialogic analog port boards by using the PBXpert utility to learn PBX tones.

Do this procedure after you administer the port boards on the switch, but before you configure the port boards using the Intel Dialogic product Configuration Manager. For more information, see Configuring analog port boards on page 299.

CAUTION:

Use the configuration notes for the PBX or switch integration to administer the port boards. For instructions on obtaining the configuration notes, see Downloading configuration notes on page 4. Administer the port boards on the switch before you can continue.

PBXpert learns the call progress tones for this PBX and stores in a Tone Set File (TSF). You can store many tone sets in a single TSF file.

You can use the PBXpert utility either automatically or manually:

- *Automatic Learning:* PBXpert uses two different channels on the Dialogic port board to set up tones and learn the resulting call progress tones automatically. To use this procedure, see Learning tones automatically on page 268.
- *Manual Learning:* PBXpert uses one channel on the Dialogic port board and a telephone to set up tones and learn the resulting call progress tones manually. PBXpert prompts you how and when to use the telephone. To use this procedure, see Learning tones manually on page 271.

  Note:

  If only one line is connected to the Dialogic port board, you must use Manual Learning.

Learning tones automatically

This section describes:

- Running the PBXpert wizard on page 268
- Consolidating and saving the TSF file on page 270
- Using the new TSF in Dialogic Configuration Manager on page 270

Running the PBXpert wizard

The PBXpert wizard guides you to learn the tones used by the PBX and saving the information as a TSF file. PBXpert can learn the following tones:

- Dial tone
- Ringback
- Busy
- Reorder (fast busy)
- Disconnect

To run the PBXpert wizard:

1. Start the Dialogic port boards:
   a. The Intel Dialogic product Configuration Manager window must be open.

      To open the DCM application, click **Start** > **Programs** > **Intel Dialogic System Release** > **Configuration Manager - DCM**.

   b. Click the green **Start** button on the button bar.

   When the service starts, the **Stop** button becomes active and the installed boards show a green light.
2. Click **Start** > **Programs** > **Intel Dialogic System Release** > **PBX Expert**.

   The PBXpert main window opens. Most fields are blank until tones are learned.

   - If you are using PBXpert for the first time after installation, the PBXpert wizard starts automatically.
   - If the PBXpert wizard does not start automatically, click **Tones** > **Tone Wizard**.

   Note:

   You can change the default settings in the wizard if you are familiar with this PBX environment and the Dialogic API. The program saves any settings that you change when you exit PBXpert. For help on a particular screen, click the **Help** button in the wizard.

After the PBXpert Wizard window opens, complete the screens as follows:

1. On the Welcome screen, click **Next**.
2. On the PBX Information screen:
   - Under **PBX**, enter the name of the **Manufacturer**, such as *Mitel*.
   - Enter the **Model** of the PBX, such as *SX-2000*.
   - You can use the automatically created **Tone Set File** name, or change the file name.
   - Click **Next**.
3. On the Select a Board screen:
   - Select the port board to use.
   - Click **Next**.
4. On the Select the Calling Resource screen, for the Line A (Calling Channel):
   - For **Select the Channel**, enter the port number or the channel to use.
   - For **Phone Number**, enter the extension number of this port.
   - Click **Next**.
5. On the Select the Called Resource screen, for the Line B (Called Channel):
   - For **Select the Channel**, enter a port number or the channel that is different from Line A.
   - For **Phone Number**, enter the extension number of this port.
   - Click **Next**.
6. On the Settings Confirmation screen:
   - Verify the settings. Click **Back** if you need to change anything.
   - Verify if you have checked the **Run Wizard Auto-Test** box.
   - Click **Next**.
7. The Auto Line Test window opens while PBXpert verifies the connection between the two specified channels.
   - If you see a **Test finished successfully!** message, click **OK**. Close this window and proceed.
   - If the line test fails:
     a. Click **OK**. Close this window.
     b. Click **Back**, adjust the settings, and try the test again.
8. On the Learning Tones screen, click **Next** to start learning tones automatically.

   The Learn Tones window opens.

   Note:

   You can click **Cancel** any time during the test to stop automated learning.

9. When PBXpert completes learning, choose to keep or discard the data.
   - If the tones were learned without errors, select **Keep Data**. The Learn Tones window closes and you can proceed.
   - If errors occurred, select **Discard Data**. The window closes.
     - Click **Back**, adjust the settings, and learn the tones again.
     - You cannot test or save the tone file if it contains errors.
10. On the Verifying the Learn screen, click **Next** to test the learned tones.
    - If the test succeeds, click **OK** to close the test window and proceed.
    - If the test fails, click **OK** to close this window. Click **Back** on the wizard, adjust the settings, and try the test again.
11. The Summary of Results screen shows the final wizard status and the tone definitions. Click **Finish**.

    The PBXpert main window displays the tone definitions.

Consolidating and saving the TSF file

You must consolidate and save the new TSF file so you can use it with the Dialogic voice driver. To do this:

1. Click **Tones** > **Consolidate**.
2. After consolidation is complete, click **File** > **Save** to save the new TSF file.
   a. In the Save As window, navigate to the **C:\Avaya_Support\Tone_Files** directory to ensure that you have saved the file.
   b. Specify a file name with file type of TSF, such as *Mitel-SX-2000.tsf*.

Using the new TSF in Dialogic Configuration Manager

To use the new TSF that you just created:

1. Return to the Intel Dialogic product Configuration Manager window.
2. Click the red **Stop** button on the button bar.
3. Return to Step 6 in Configuring analog port boards on page 299 and complete board configuration and testing.

Learning tones manually

This section describes:

- Running PBXpert on page 271
- Adding a new tone set on page 272
- Learning tone definitions on page 272
- Testing the tone set on page 273
- Consolidating and saving the TSF file on page 273
- Using the new TSF in Dialogic Configuration Manager on page 274

Running PBXpert

To run PBXpert manually:

1. Start the Dialogic port boards.
   a. The Intel Dialogic product Configuration Manager window must be open.

      To open the DCM application, click **Start** > **Programs** > **Intel Dialogic System Release** > **Configuration Manager - DCM**.

   b. Click the green **Start** button on the button bar.

   When the service starts, the **Stop** button becomes active and the installed boards show a green light.
2. Click **Start** > **Programs** > **Intel Dialogic System Release** > **PBX Expert**.

   The system opens the **PBXpert** main window. Most fields are blank until tones are learned. If you are using PBXpert for the first time after installation, the PBXpert wizard starts automatically.
3. Select the **Don't run wizard at startup** check box and then click **Cancel**..

   A new, empty TSF is now active.
4. In the PBXpert main window, click **Settings** on the button bar. The system opens the **Settings** window.
5. Click the Dialing tab, and complete the following:
   a. Under **Line A**, enter the **Board Number**, such as *1*.

   b. Enter the **Channel Number** or **Port number**.

   c. Verify that the **Manual mode** check box is checked.

d. For **Phone Number**, enter the extension for this port or channel.

You can use the default values for all other fields in this window. Click **Help** for more information if needed.

e. Repeat Steps a through d for **Line B**.

Note:

If you are familiar with this PBX environment and the Dialogic API, you can change these default settings. The program saves any settings that you change when you exit PBXpert.

f. Click **OK**.

Adding a new tone set

To add a new tone set to a TSF:

1. From the PBXpert main window, click **Edit** > **New Tone Set**.
2. In the New Toneset window:
   a. Enter the PBX **Manufacturer**, such as *Mitel*, and the **Model** name, such as *SX-2000*.
   b. Click **OK**.

   The **PBXpert** main window shows the manufacturer and model names you entered. The tone definitions are set to zero.

Learning tone definitions

To add tone definitions to the new tone set:

1. From the PBXpert main window, click **Tones** > **Learn**.
2. On the Start Learn window:
   a. Select the tones for the Dialogic boards to learn. The default is all tones.
   b. Click **Start Learn** to have PBXpert start learning tones.

   The Learn Tones window opens.

   Note:

   Click **Cancel** any time to stop learning.
3. The system prompts you to listen for ringing, and to pick up or replace the telephone handset, during the test. When a message box pops up, do the requested action, and then click **OK**.

4. When the learning process is complete, the system displays the tone definitions in the Learn Tones window. Choose to keep or discard the data:
   - If the tones were learned without errors, select **Keep Data**. The Learn Tones window closes and you can proceed.
   - If errors occurred, select **Discard Data**. The window closes.
     - Click **Back** on the wizard, adjust the settings, and try to learn the tones again.
     - You cannot test or save the tone file if it contains errors.

   The **Learn Tone** window closes. The **PBXpert** main window displays the new tone definitions.

Testing the tone set

The Test function verifies that the consolidated tone set in the active TSF works correctly with Perfect Call, a call progress analysis utility.

To test the newly learned tones:

1. In the main PBXpert window, click **Tones** > **Test**.
2. A Test window opens.

   When testing is complete, the Test window displays the test results.
3. Verify that the tone definitions of the learned tones are correct.

Consolidating and saving the TSF file

You must consolidate and save the new TSF file so you can use it with the Dialogic voice driver. To do this:

1. Click **Tones** > **Consolidate**.
2. Click **File** > **Save** to save the new TSF file.
   a. In the Save As window, navigate to the following directory to ensure that the file is backed up: **C:\Avaya_Support\Tone_Files**

   Note:

   If you use the default DATA directory, the system will *not* back up the customized tone file automatically.

   b. Specify a file name of TSF file type, such as *Mitel-SX-2000.tsf*.

Using the new TSF in Dialogic Configuration Manager

To use the new TSF that you just created:

1. Return to the Intel Dialogic product Configuration Manager window.
2. Click the red **Stop** button on the button bar.
3. Return to Step 6 in Configuring analog port boards on page 299 and complete board configuration and testing.

Appendix D: Installing Dialogic port boards in a customer-provided MAS

This appendix describes how to install Dialogic port boards and their drivers in a customer-provided equipment (CPE) server, also called a customer-provided MAS. A customer might have several servers that support Avaya Modular Messaging software and services.

- One to ten servers that handles call-processing functions. These are called *Messaging Application Server (MAS)* servers. An MAS can contain port boards, depending on the switch integration.
- One supplementary server that is configured like an MAS, but does not handle calls and does not contain port boards.
- Multiple optional servers that handle special services only. An optional server never contains port boards.

CAUTION:

Use the procedures in this chapter *only* to install Dialogic port boards into a customer-provided equipment (CPE) server that is to handle calls.

Continue with Chapter 2: Preparing to install Modular Messaging software on page 11 if:

- you are using Avaya-provided hardware, For detailed procedures, see *Installing the Avaya S8730 Server for Modular Messaging* guide or *Maintaining the Avaya S8730 Server* guide.
- this Avaya Modular Messaging system is to use an IP H.323 or IP SIP integration. These IP switch integration methods do not use port boards.

CAUTION:

Avaya does not support Brooktrout port boards for Modular Messaging systems that run Release 5.1 software. Install only the currently supported Dialogic port boards in a CPE server.

Avaya recommends that you connect a modem to each server to support remote dial in.

Note:

Before you can do the tasks described in this section, verify that all preinstallation requirements were met. See Chapter 1: Preinstallation requirements on page 1.

Topics in this chapter include:

- Supported MAS port boards on page 277
- Installing MAS port boards on page 278
- Connecting MAS port boards to the switch on page 291
- Completing the hardware installation on page 292

- Configuring MAS port boards on page 52
- Testing the port boards on page 303

Supported MAS port boards

Table 4 lists the Dialogic port boards that Avaya supports for all new installations that use customer-provided equipment (CPE) servers. The type of port boards required depends on the switch integration, but each MAS can have only one type of port board installed. For example, all the boards in the server must be T1-QSIG or DSE.

Table 4: Supported MAS port boards for customer-provided servers

Protocol	Ports per MAS	Port boards	Maximum Number	Dialogic files on documentation media
Analog	12 - 48	Dialogic D/120JCT-LS 12-port board	4	**D/120JCT-LS** (PDF)
	4 - 16	Dialogic D/41JCT-LS 4-port board	4	**D/41JCT-LS** (PDF)
Digital Set Emulation	8 - 16	Dialogic D/82JCT-U-PCI-UNIV Dialogic D/82JCT-EW	2	**D/82JCT-U PCI Univ** (PDF)
E1-QSIG	30 - 60	Dialogic D/600JCT-1E1 [1] or D/600JCT-2E1	2	**D/600JCT-1E1** or **D/600JCT-2E1** (PDF) **D/600JCT-1E1-120-EW**
T1-QSIG	23 - 46	Dialogic D/480JCT-1T1 [1] Dialogic D/480JCT-1T1- EW	2	**D/480JCT-1T1** (PDF) **D/480JCT-1T1-EW** (PDF)

1. Early D/600JCT-1E1 and D/480JCT-1T1 QSIG port boards have a plug in the unused connector on the faceplate. Dialogic D/600JCT-1E1 or D/480JCT-1T1 QSIG port boards that ship after mid-2005 have only a single connector. Both types of QSIG boards operate identically.

Note:

To support the capacities shown in Table 4, the minimum CPE server hardware specifications must match the specifications for the S8730-family MAS. For more information, see the *Avaya Modular Messaging Concepts and Planning Guide*.

The Dialogic documents provide details about installing and connecting the port boards. The documents are available on the *Avaya Modular Messaging Documentation* media or from the www.avaya.com/support Web site. For instructions on how to obtain the documents, see Downloading required software and documentation on page 3. For the latest version of the Dialogic guides, see the Quick Install Cards Search Tool on the Intel Telecom Boards Web site.

Note:

The Dialogic documentation describes more setups than the ones used for Avaya Modular Messaging. If information in a Dialogic document conflicts with this Avaya document, follow the steps in the Avaya documentation. Use the Dialogic documentation to locate various items on the board or verify cable connections.

Installing MAS port boards

Do this task only on a customer-provided server.

Before you can install the Modular Messaging software on a customer-provided equipment (CPE) server, you must first install any required port boards in each MAS.

Note:

The number of port boards you can install in a customer-provided MAS depends on the type of board and the number of PCI slots in the server. These instructions assume that up to four PCI slots are available in the server, and that board installation starts with the fourth PCI slot. Modify these instructions as appropriate for the server that you are using.

Preparing for the installation

To install Dialogic port boards in a customer-provided MAS:

1. Verify that this MAS meets the minimum requirements needed to support Modular Messaging software. For more information, see the *Avaya Modular Messaging Concepts and Planning Guide*.
2. Print the appropriate Dialogic PDF file for more information. For a list of the Dialogic documents that support each type of board, see Table 4: Supported MAS port boards for customer-provided servers on page 277.
3. If the server is already in operation, take it out of service to install the port boards. Schedule and publicize a time.
4. When you are ready to start the installation, shut down the system software and turn off the server. Unplug the AC power cord for safety.

CAUTION:

Electrostatic discharge can severely damage sensitive electronic circuits. Before handling any electronic hardware, be sure to wear a grounding wrist strap or other static-dissipating device. The antistatic wrist strap must touch your bare skin and the strap cable must connect to an earth ground. For complete ESD instructions, see "Protecting against ESD damage" on the documentation media.

5. Open the chassis to access the PCI card slots.
6. Remove the cover for the PCI slot in which you want to install the new board. Set the retaining screw aside.
   - If you are installing multiple boards, remove as many card slot covers as are needed.
   - Note the maximum number of boards of a certain type that you can install in one MAS. See Table 4: Supported MAS port boards for customer-provided servers on page 277.

Note:

When you insert boards, start from the right-most slot if possible. For example, if six PCI slots are in the server, start with PCI slot 6 to insert the port boards.

Setting jumpers and switches

Set the jumpers and switches for board position, bus termination, and other features as described in this section. For more information about jumper or switch locations, see the Dialogic documentation listed in Table 4: Supported MAS port boards for customer-provided servers on page 277.

Note:

The Dialogic documentation describes more setups than the ones used for Avaya Modular Messaging. If information in a Dialogic document conflicts with this Avaya document, follow the steps in the Avaya documentation. Use the Dialogic documentation to locate various items on the board or verify cable connections.

To set the jumpers and switches on each board:

1. Remove the new port board from its packaging. Do not touch the circuit board surface.
2. Set the jumpers and switches as required for this type of board:
   - D/480JCT-1T1 and D/600JCT-1E1 or D/600JCT-2E1 QSIG board settings on page 280
   - D/480JCT-1T1-EW and D/600JCT-E1-120-EW QSIG board settings on page 280
   - D/82JCT-U PCI Univ set emulation board settings on page 281
   - D/82JCT-U EW set emulation board settings on page 282
   - D/120JCT-LS 12-port analog board settings on page 283
   - D/120JCT-LS-EW port analog board settings on page 283

- D/41JCT-LS 4-port analog board settings on page 285
- D/41JCT-LS-EW analog board settings on page 286

D/480JCT-1T1 and D/600JCT-1E1 or D/600JCT-2E1 QSIG board settings

To set up Dialogic T1 or E1 QSIG boards, you must set only the board ID for the port board.

1. Turn the rotary switch, located on the top of the port board. Set the board ID according to the slot number in which the board is installed.

   The Dialogic port boards usually are placed in the PCI slots starting from the right side of the cabinet. For the board ID numbers for a 6-PCI slot MAS, see Table 5.

Table 5: D/480JCT-1T1 and D/600JCT-1E1 or D/600JCT-2E1 QSIG board ID settings

Card number	Board ID number	PCI slot number
1	0	6
2	1	5

Note:

Do *not* set the Computer Telephony (CT) bus for bus termination.

2. Continue with Installing the port boards on page 289.

D/480JCT-1T1-EW and D/600JCT-E1-120-EW QSIG board settings

If a system has two boards, they must be installed in adjacent slots.

For the D/480JCt-1T1-EW and D/600JCT-E1-120-EW boards, set the board ID and turn off power budgeting.

1. Turn the rotary switch, located on the top of the port board. Set the board ID according to the slot number in which the board is installed.

The Dialogic port boards usually are placed in the PCI slots starting from the right side of the cabinet. For the board ID numbers for a 6-PCI slot MAS, see Table 5.

Table 6: D/480JCT-1T1-EW and D/600JCT-E1-120-EW QSIG board ID settings

Board ID number	PCI slot number
0	3
1	4

2. Move the P3 jumper on the top of the board on to pins 1-2 to disable power budgeting.

D/82JCT-U PCI Univ set emulation board settings

To set up Dialogic digital set emulation (DSE) boards, you must set only the bus termination.

1. If the server contains more than one port board, set the boards on both ends of the Computer Telephony (CT) bus for bus termination. Use jumper **P8** to set CT bus termination as shown in Table 7.

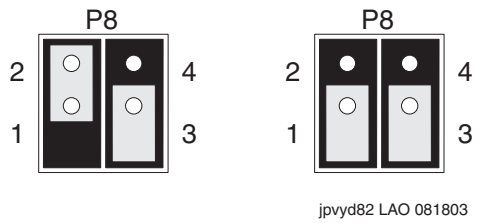
Table 7: D/82JCT-U set emulation board settings for CT bus termination

Number of cards	P8 jumper	CT bus termination
1	OFF	Do not terminate bus.
2	Card 1: ON pins 1 and 2 Card 2: ON pins 1 and 2	Terminate bus on both boards.
3	Card 1: ON pins 1 and 2 Card 2: OFF Card 3: ON pins 1 and 2	Terminate bus on boards 1 and 3.
4	Card 1: ON pins 1 and 2 Card 2: OFF Card 3: OFF Card 4: ON pins 1 and 2	Terminate bus on boards 1 and 4.

Figure 1 shows the **P8** jumper settings.

- The setting on the left is ON. Pins 1 and 2 are jumpered. If set, the CT bus is terminated.
- The setting on the right is OFF.

Figure 1: D/82JCT-U board settings for CT bus termination: ON or OFF



2. Continue with Installing the port boards on page 289.

D/82JCT-U EW set emulation board settings

To set up Dialogic digital set emulation (DSE) boards, you must set only the bus termination.

1. If the server contains more than one port boards, set the boards on both ends of the Computer Telephony (CT) bus for bus termination and turn off power budgeting on all boards. Use jumper **P8** to set CT bus termination as shown in Table 7.

Table 8: D/82JCT-U set emulation board settings for CT bus termination

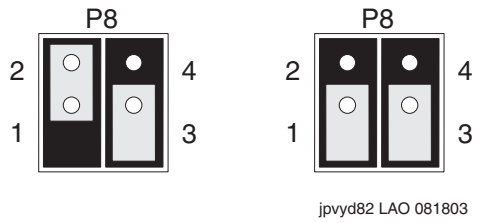
Number of cards	P8 jumper	CT bus termination
1	OFF	Do not terminate bus.
2	Card 1: ON pins 1 and 2 Card 2: ON pins 1 and 2	Terminate bus on both boards.

2. Set the P8 jumper to the appropriate position for the system configuration:
   - For a system with two boards, move the P8 jumper on to pins 1 and 2.
   - For a system with one board, verify that the P8 jumper is only on pin 1.

   Figure 2 shows the **P8** jumper settings.
   - The setting on the left is ON. Pins 1 and 2 are jumpered. If set, the CT bus is terminated.
   - The setting on the right is OFF.

Figure 2: D/82JCT-U board settings for CT bus termination: ON or OFF

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3. Move the P11 jumper on the top of the board on to pins 1–2 to disable power.

D/120JCT-LS 12-port analog board settings

To set up Dialogic 12-port analog boards:

1. Set the unique board ID for the port board. Turn the rotary switch, located on the top of the board. Set the board ID according to the slot number in which the port board is installed.

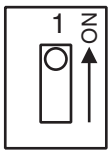
   The Dialogic port boards usually are placed in the PCI slots starting from the right side of the cabinet. For the board ID numbers for a 6-PCI slot MAS, see Table 9.

Table 9: D/120JCT-LS 12-port analog board ID settings

Card number	Board ID number	PCI slot number
1	0	6
2	1	5
3	2	4
4	3	3

2. Set the hook-switch state of the port board to **ON** so callers hear a busy signal when the board is not initialized. Use the **SW1** switch, located at the top of the board, to set the hook-switch state. See Figure 3.

Figure 3: D/120JCT-LS analog board setting for on-hook switch



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3. Continue with Installing the port boards on page 289.

D/120JCT-LS-EW port analog board settings

Determine in which slot in the PCI cage you will be installing the board. Slots in the PCI cage are number 3 (bottom slot) 4 (middle slot) and 5 (top slot). If a system has two boards, they

must be installed in adjacent slots. For the D/120JCT-LS-EW board, set the board ID, the hook-switch state and turn off power budgeting.

1. Set the unique board ID for the port board. Turn the rotary switch, located on the top of the board. Set the board ID according to the slot number in which the port board is installed.

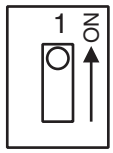
   The Dialogic port boards usually are placed in the PCI slots starting from the right side of the cabinet, see Table 10.

Table 10: D/120JCT-LS-EW port analog board ID settings

Board ID number	PCI slot number
0	3
1	4

2. Set the hook-switch state of the port board to **ON** so callers hear a busy signal when the board is not initialized. Use the **SW1** switch, located at the top of the board, to set the hook-switch state. See Figure 4.

Figure 4: D/120JCT-LS analog board setting for on-hook switch



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3. Move the P3 jumper on the top of the board on to pins 1–2 to disable power budgeting.

D/41JCT-LS 4-port analog board settings

To set up Dialogic 4-port analog boards:

1. Set the unique board ID for the port board. Turn the **SW30** rotary switch, located on the top of the board. Set the board ID according to the slot number in which the board is installed.

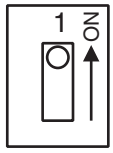
   The Dialogic port boards usually are placed in the PCI slots starting from the right side of the cabinet. For the board ID numbers for a 6-PCI slot MAS, see Table 11.

Table 11: D/41JCT-LS 4-port analog board ID settings

Card number	Board ID number	PCI slot number
1	0	6
2	1	5
3	2	4
4	3	3

2. Set the hook-switch state of the port board to **ON** so callers hear a busy signal when the board is not initialized. Use the red **SW4** switch, located near the top of the board, to set the hook-switch state. See Figure 5: D/41JCT-LS analog board setting for on-hook switch on page 285.

Figure 5: D/41JCT-LS analog board setting for on-hook switch



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3. If the server contains more than one port board, set the boards on both ends of the Computer Telephony (CT) bus for bus termination. Use jumper **JP2** to set CT bus termination as shown in Table 12.

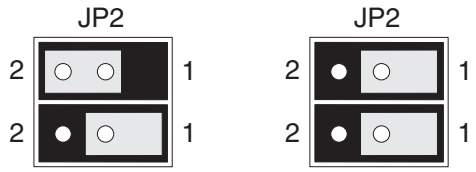
Table 12: D/41JCT-LS analog board settings for CT bus termination

Number of cards	JP2 jumper	CT bus termination
1	OFF	Do not terminate bus.
2	Card 1: ON pins 1 and 2 Card 2: ON pins 1 and 2	Terminate bus on both boards.
3	Card 1: ON pins 1 and 2 Card 2: OFF Card 3: ON pins 1 and 2	Terminate bus on boards 1 and 3.
4	Card 1: ON pins 1 and 2 Card 2: OFF Card 3: OFF Card 4: ON pins 1 and 2	Terminate bus on boards 1 and 4.

Figure 6 shows the **JP2** jumper settings.

- The setting on the left is ON. Pins 1 and 2 are jumpered. If set, the CT bus is terminated.
- The setting on the right is OFF.

Figure 6: D/41JCT-LS analog board settings for CT bus termination: ON or OFF



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D/41JCT-LS-EW analog board settings

Determine in which slot in the PCI cage you will be installing the board. Slots in the PCI cage are number 3 (bottom slot) 4 (middle slot) and 5 (top slot). If a system has two boards, they must be installed in adjacent slots. For the D/41JCT-LS-EW board, set the board ID, the

hook-switch state and Computer Telephony (CT) bus termination. CT bus termination is set by adjusting the JP2 jumper on the side of the board.

1. Set the unique board ID for the port board. Turn the **SW30** rotary switch, located on the top of the board. Set the board ID according to the slot number in which the board is installed.

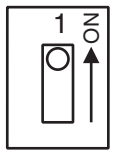
   The Dialogic port boards usually are placed in the PCI slots starting from the right side of the cabinet, see Table 13.

Table 13: D/41JCT-LS 4-port analog board ID settings

Board ID number	PCI slot number
0	3
1	4

2. Set the hook-switch state of the port board to **ON** so callers hear a busy signal when the board is not initialized. Use the red **SW4** switch, located near the top of the board, to set the hook-switch state. See Figure 7: D/41JCT-LS analog board setting for on-hook switch on page 287.

Figure 7: D/41JCT-LS analog board setting for on-hook switch



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3. If the server contains more than one port board, set the boards on both ends of the Computer Telephony (CT) bus for bus termination. Use jumper **JP2** to set CT bus termination as shown in Table 14.

Table 14: D/41JCT-LS-EW analog board settings for CT bus termination

Number of cards	JP2 jumper	CT bus termination
1	OFF	Do not terminate bus.
2	Card 1: ON pins 1 and 2 Card 2: ON pins 1 and 2	Terminate bus on both boards.

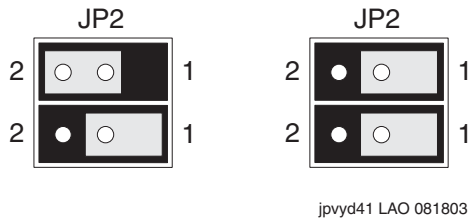
4. Set the JP2 jumper to the appropriate position for the system configuration:
   - For a system with two boards, move the JP2 jumper on to pins 1 and 2.

- For a system with one board, verify that the JP2 jumper is only on pin 1.

Figure 8 shows the **JP2** jumper settings.

- The setting on the left is ON. Pins 1 and 2 are jumpered. If set, the CT bus is terminated.
- The setting on the right is OFF.

Figure 8: D/41JCT-LS-EW analog board settings for CT bus termination: ON or OFF



Installing the port boards

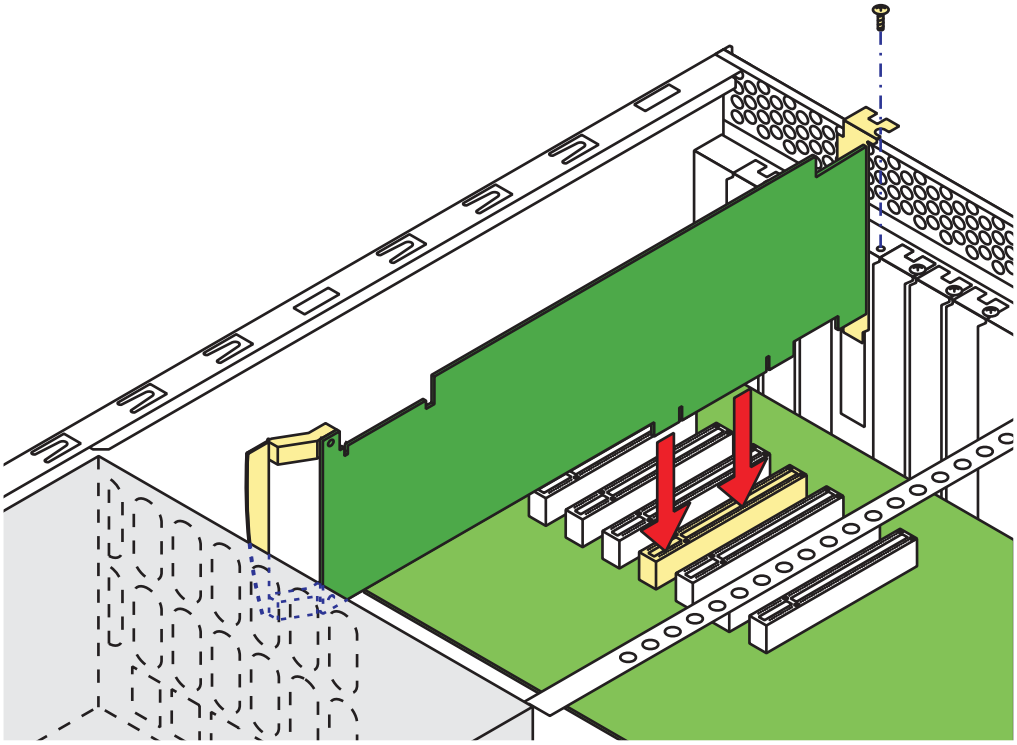
After you verify that the settings are correct, install the MAS port boards:

CAUTION:

Verify that all port boards in an MAS are of the same type. You cannot mix board types within the same MAS, such as analog boards with DSE or QSIG.

1. Slide the slot retainer bracket on the port board into the slot guide on the chassis.
2. Align the edge connector on the port board with the slot connector. Apply pressure to the top of the board only. Push down until the edge connector is firmly seated. See Figure 9.

Figure 9: Installing a port board in a CPE MAS



3. Replace and tighten the retaining screw for the port board.
4. Repeat Steps 1 through 3 to install any additional port boards.

5. *If the MAS has multiple port boards,* attach the Computer Telephony (CT) bus cable to connect all the port boards:
   a. Position the CT bus cable so the colored stripe on the ribbon cable faces the ports at the back of the chassis.
   b. Start with the board in the highest numbered slot. Attach the end connector on the bus cable to the CT bus edge connector at the top of the board.
   c. Connect the next bus connector to the next port board, and so on.
   d. If the cable has extra connectors or loose ribbon cable, tuck down the cable so it does not snag when you replace the cover.
6. Replace the chassis cover.
7. Plug in the AC power cord.
8. Restore power to the server.

   The server boots.

Disabling the Dialogic hardware

The Microsoft Windows software automatically detects the Dialogic port boards that you just installed. You configure these boards later as part of the Modular Messaging software installation. Do *not* install the Dialogic drivers at this time.

To temporarily disable the Dialogic port boards:

1. After the server boots, log on using an account that has permission to install software, such as the local administrator.
2. The system runs a **Found New Hardware Wizard** once for each new Dialogic port board installed in the MAS. To complete the wizard:
   a. On the Welcome screen, use the default option to **Install the software automatically**. Click **Next**.
   b. Wait while the system searches for a driver.
   c. When the wizard reports that it **Cannot Install this Hardware**, click **Finish**.
3. Repeat Step 2 for each repetition of the Found New Hardware Wizard.

   Note:

   You install the Dialogic drivers later with the rest of the Modular Messaging software.

Connecting MAS port boards to the switch

Connect the MAS port boards to the PBX (switch), as described in this section.

To connect MAS port boards to the switch:

1. Assemble the required cables.

   Note:

   Port boards ordered through Avaya ship with the correct cables.

2. Connect each port on the port boards to the switch (PBX) as required:

   Note:

   Check the numbering on the board faceplate to verify that you are connecting the correct cable to the correct port.

- **For E1-QSIG or T1-QSIG boards:**

  a. Connect the port on the Dialogic E1-QSIG or T1-QSIG board using an RJ-48C Ethernet cable.

  b. The other end of the cable must be connected to the QSIG board on the corporate switching system. The organization responsible for maintaining the corporate switch must make this connection. See the customer contract or the statement of work.

- **For set emulation boards:**

  a. Connect each port on the Dialogic set emulation (DSE) board using the D/82U cable (Intel part number 86-0155-001).

  b. The other end of the cable must be connected to a 4-wire punch-down block on the corporate switching system. The organization responsible for maintaining the corporate switch must make this connection. See the customer contract or the statement of work.

- **For analog boards:**

  a. Connect each port on the installed analog boards to one end of a standard RJ-11 tip/ring cord. You can also use individual tip/ring cables and a 12-port harmonica. Note which cables connect to which ports.

  b. The other end of the cable must be connected to an analog line on the corporate switching system. The organization responsible for maintaining the corporate switch must make this connection. See the customer contract or the statement of work.

Completing the hardware installation

To complete the hardware installation on a customer-provided equipment (CPE) server:

1. The Dialogic port boards require their own drivers and software for board configuration. You install the Dialogic drivers and software as part of the Modular Messaging software installation. For more information, see Running the Modular Messaging Configuration Wizard on page 65.
2. If you intend to access this server remotely using a modem, verify that the modem is correctly installed and configured. For example, a remote support center might need to dial in to this server for troubleshooting or maintenance.
   a. For information about modem installation, setup, and operation, see the documentation provided with the modem.
   b. For information about configuring the Modular Messaging software to use a modem, see Chapter 6: Configuring the voice mail system on page 77.

Appendix E: Configuring and testing port boards

Overview

This appendix describes how to configure and test Dialogic port boards. Dialogic port boards are installed in some MASs, depending on the switch integration.

Note:

An MAS that uses an IP H.323 or IP SIP switch integration has no port boards. You do all configuration for these switch integrations using the Voice Mail System Configuration (VMSC) program. For more information, see Configuring port boards and switch integration on page 95.

This section contains the following topics:

- When to configure port boards on page 293
- Configuring port boards on page 295
- Testing the port boards on page 303

When to configure port boards

In Release 5.1, you must configure Dialogic port boards only if:

- Dialogic port boards are installed in this MAS *and*
- The Avaya Modular Messaging Configuration Wizard does not automatically configure the Dialogic port boards.

The Avaya Modular Messaging Configuration Wizard automatically configures any installed Dialogic port boards for several switch integrations, including:

- Avaya (QSIG)
- Cisco (QSIG)
- Nortel NT M-1 (QSIG)
- Siemens Hipath (QSIG)

To verify if a particular switch integration supports automatic configuration of the Dialogic port boards, open the Data Collection Tool (DCT) executable file.

1. On the MAS, navigate to the directory
   C:\Program Files\Avaya Modular Messaging\Install\MISCM
2. Double-click the executable file (MMDCT.exe) to open the Data Collection Tool.

3. Click the **Switch integration method** screen to see the list of supported switch integrations.
4. Close the DCT executable file and close all open windows.

Supported port boards

The number and type of supported port boards varies, depending on the hardware used and the release during which the port boards were installed.

- Systems with Avaya MASs that were upgraded from an earlier release might use either customer-provided or S8730-family server hardware. Upgraded MASs can have a varying number of port boards installed. The number of port boards depends on the original software release when the boards were installed, and the number of TUIs in use. Table 15 lists supported Dialogic port boards for CPE and S8730-family message servers.

Table 15: Supported Dialogic port boards: S8730-family server and CPE hardware

Protocol	Maximum Ports per MAS	Supported port boards	Maximum cards per MAS	Dialogic files on documentation media
Analog	36 12	Dialogic D/120JCT-LS-EW 12-port board Dialogic D/41JCT-LS-EW 4-port board	3 3[2]	**D/120JCT-LS** (PDF) **D/41JCT-LS** (PDF)
Digital Set Emulation	24 8	Dialogic D/82JCT-EW	3	**D/82JCT-U PCI Univ** (PDF) **D/82JCT-U** (PDF) *Supported for upgrades only. CPE servers support up to 6.*
E1-QSIG	88 29	Dialogic D/ 600JCT-1E1-120-EW	3	**D/600JCT-1E1** or **D/600JCT-2E1** (PDF) **D/300JCT-E1** (PDF) *Supported for CPE upgrades only.*
T1-QSIG	69 23	Dialogic D/480JCT-1T1 -EW	3	**D/480JCT-1T1** (PDF) **D/240JCT-T1** (PDF) *Supported for CPE upgrades only.*
H.323 integration	30	None	None	None
SIP/SRTP[1]	58	None	None	None
SIP/RTP	96	None	None	None

1. SIP and H.323 transmit voice as IP packets over the LAN cards. Therefore, does not need separate port boards.

- New Release 5.1 systems can use the following hardware:
  - New Avaya-provided MASs always use S3500-family server hardware. All S8730-family MASs support a maximum of two port boards each.
  - New Release 5.1 systems that use a customer-provided server might support a larger number of port boards per MAS. The number depends on the board type and the number of PCI slots available in the CPE server. For more information about CPE servers, see Table 4: Supported MAS port boards for customer-provided servers on page 277.

The Dialogic documents provide details about installing and connecting the port boards. The documents are available on the *Avaya Modular Messaging Documentation* media or from the Avaya Support Web site at http://www.avaya.com/support. For instructions on obtaining Avaya documents, see Downloading user documentation on page 5. For the latest version of the Dialogic guides, see the Quick Install Cards Search Tool on the Intel Telecom Boards Web site.

Configuring port boards

Manual port board configuration involves three phases:

1. The appropriate party must administer the switch for the port boards using the configuration notes for this particular switch (PBX) integration. For instructions on obtaining the most recent configuration notes, see Downloading configuration notes on page 4.

   CAUTION:

   You can install this system only by using the required configuration notes for this switch or PBX. The PBX administrator *must* have administered the ports on the switch before you can proceed.

2. Configure and test the port boards as described in this section. Some steps require you to use the configuration notes.
3. Complete the port board configuration as described in Chapter 6: Configuring the voice mail system on page 77.

Continue based on the type of port boards installed in this MAS:

- Configuring T1-QSIG or E1-QSIG boards on page 296
- Configuring set emulation boards on page 298
- Configuring analog port boards on page 299

CAUTION:

If the window displays no port boards when you run the Dialogic Configuration Manager, you might need to reseat or replace some of the boards. For more information, see the appropriate maintenance information for this Modular Messaging system on the documentation media:

- For S3500-family servers, see *Avaya Modular Messaging S8730-Family Hardware Maintenance and Additions*
- For S3500-family servers, see *Avaya Modular Messaging S3500-Family Hardware Maintenance and Additions*

For information on placing and numbering the Dialogic port boards, see *Installing the Avaya S8730 Server for Modular Messaging* guide.

Configuring T1-QSIG or E1-QSIG boards

Any of the following QSIG port boards might be installed in an MAS:

- Dialogic D/480JCT-1T1 board
- Dialogic D/480JCT-1T1- EW
- Dialogic D/600JCT-1E1
- Dialogic D/600JCT-2E1
- Dialogic D/600JCT-1E1- 120- EW

Note:

Avaya supports the D/240JCT-T1 and D/300JCT-E1 QSIG boards *only* for CPE upgrades from Release 1. Avaya-provided servers do *not* support these boards

The maximum number of port boards per MAS varies, depending on the server hardware. For more information, see Supported port boards on page 294.

To configure QSIG boards:

1. Click **Start > Programs > Intel Dialogic System Release > Configuration Manager - DCM**.

   The **Intel Dialogic product Configuration Manager** window opens.

2. If a popup window opens, connect to the MAS as follows:

   a. In the **Computer Name** window, verify that **Local** is selected and that the correct server name is shown, such as *MYMAS1*.

   b. Click **Connect**.

Note:

The system displays this window only the first time that you access the Dialogic Configuration Manager application.

The Dialogic software locates any installed port boards.

3. Verify that all Dialogic services are stopped. All boards should show a red icon.

   Note:

   If the board icon shows an X, the board is disabled. To enable it, right-click the board and select **Enable device(s)**.

4. Under Configured Devices, double-click the name of the first Dialogic board, such as *#0*.
5. In the **Intel Dialogic product Configuration Manager - Properties** window:
   a. Click the **Interface** tab and select the **ISDNProtocol** parameter.
   b. Select the correct value for this board from the pull-down list:
      - For E1-QSIG: select **QTE**
      - For T1-QSIG: select **QTU**
   c. Click the **Telephony Bus** tab and select the **PCMEncoding** parameter.
   d. Select the correct value for the installed board from the pull-down list:
      - For E1-QSIG: select **A-Law** for most countries, particularly Europe
      - For T1-QSIG: select **μ-Law** (mu-Law) for the United States and Japan
   e. Click the **Misc** tab. For the **FirmwareFile** parameter, verify that the value is **default**.
   f. On the **Misc** tab for the **FirmwareFile2** parameter, verify that the value is **spfax.fwl.** This parameter will only appear for the D480JCT-1T1, D/600JCT-1E1 or D/600JCT-2E1 dual span QSIG boards.
   g. Click the **Country** tab and select the **Country** parameter.
   h. On the pull-down list of values, always use **United States** for either type of board.
   i. Click **OK** to close the properties window.
6. Repeat Steps 4 and 5 for any other installed Dialogic boards, such as *#1*.
7. After all boards are configured, click the green **Start** button on the button bar.

   Wait for service to start. When service is started, the **Stop** button becomes active and the installed boards show a green light.
8. Verify that the port boards are operating correctly.
   a. Check the LED display on the Dialogic board faceplate.
      - A red status LED lights on the back of the port board during driver startup.
      - If the drivers start successfully, the board whose port is connected to the PBX shows a green LED within 30 seconds. LEDs on the other boards remain red.

b. If a problem occurs, check the board configuration, the physical connections between the board and the PBX, or the PBX configuration. Repeat Steps 4 through 8 as needed.

9. Close the **Intel Dialogic product Configuration Manager** window.
10. Continue with Testing the port boards on page 303.

Configuring set emulation boards

An MAS supports 8-port Dialogic Digital Set Emulation (DSE) boards. The maximum number of port boards per MAS varies, depending on the server hardware. For more information, see Supported port boards on page 294.

Note:

Avaya supports the non-universal D/82JCT-U board for upgrades only.

To configure digital set emulation boards:

1. Click **Start** > **Programs** > **Intel Dialogic System Release** > **Configuration Manager - DCM**.

   The **Intel Dialogic product Configuration Manager** window opens.

2. If a popup window opens, connect to the MAS as follows:

   a. In the **Computer Name** window, verify that **Local** is selected and that the correct server name is shown, such as *MYMAS1*.

   b. Click **Connect**.

   Note:

   The system displays this window only the first time that you access the Dialogic Configuration Manager application.

   The Dialogic software locates any installed port boards.

3. Verify that all Dialogic services are stopped. All boards should show a red icon.

   Note:

   If the board icon shows an X, the board is disabled. To enable it, right-click the board and select **Enable device(s)**.

4. Under Configured Devices, double-click the name of the first Dialogic board, such as *#0*.
5. In the **Intel Dialogic product Configuration Manager - Properties** window:

   a. Click the **Telephony Bus** tab and select the **PCMEncoding** parameter.

   b. On the pull-down list of values, select either **A-Law** or **μ-Law**, depending on your location. Usually, **A-Law** is Europe and **μ-Law** (mu-Law) is United States and Japan.

   c. Click the **Misc** tab.

1. Select the **FirmwareFile** parameter. In the **Value** field, select or type **D82U.fwl**. The **Value** field is editable.
2. Select the **PBXSwitch** parameter. On the pull-down list of values, select the name of the PBX. For example, use *Lucent 2-wire* for an Avaya G3 switch.

Note:

For a Siemens Hicom 300/9006 PBX, select Siemens Rolm 9006.

d. Click the **Country** tab and select the **Country** parameter. On the pull-down list of values, select the country.

e. Click **OK** to close the properties window.

6. Repeat Steps 4 and 5 for any other installed Dialogic boards, such as *#1*.

CAUTION:

If the DSE boards are connected to a Nortel (NTM-1) PBX, you must reboot the MAS before you start the Dialogic drivers. Close the DCM and reboot the system now. When the reboot is complete, log back in and reopen the DCM as in Step 1, and then continue with Step 7.

7. After all boards are configured, click the green **Start** button on the button bar.

   Wait for service to start. When service is started, the **Stop** button becomes active and the installed boards show a green light.

8. Verify that the port boards are operating correctly.

   a. Check the LED display on the Dialogic board faceplate. Verify the code for each port:

   - Ports that are connected to a telephone line and functioning correctly show 0 and the port number, such as *00* or *01*.
   - Ports that are not connected to a telephone line or not functioning correctly show *En*, where *n* is the port number. For example, the display reads *E3* if port 3 has an error.

   b. If the system displays any *En* error, check the board configuration, the physical connections between the board and the PBX, or the PBX configuration. For example, verify that you configured the correct PBX. Repeat Steps 4 through 8 as needed.

9. Close the **Dialogic product Configuration Manager** window.
10. Continue with Testing the port boards on page 303.

Configuring analog port boards

The following analog port boards might be installed in an MAS:

- Dialogic D/41JCT-LS 4-port Tip/Ring
- Dialogic D/41JCT-LS- EW 4-port

- Dialogic D/120JCT-LS 12-port Tip/Ring board
- Dialogic D/120JCT-LS- EW 12-port

The maximum number of port boards per MAS varies, depending on the server hardware. For more information, see Supported port boards on page 294.

To configure any of these analog boards:

1. Click **Start** > **Programs** > **Intel Dialogic System Release** > **Configuration Manager - DCM**.

   The **Intel Dialogic product Configuration Manager** window opens.

2. If a popup window opens, connect to the MAS as follows:

   a. In the **Computer Name** window, verify that **Local** is selected and that the correct server name is shown, such as *MYMAS1*.

   b. Click **Connect**.

   Note:

   The system displays this window only the first time that you access the Dialogic Configuration Manager application.

   The Dialogic software locates any installed port boards.

3. Verify that all Dialogic services are stopped. All boards should show a red icon.

   Note:

   If the board icon shows an X, the board is disabled. To enable it, right-click the board and select **Enable device(s)**.

4. *For a D/120JCT-LS board:* You must load the new firmware separately in Release 5.1, or the 12-port boards will not work correctly. For example, fax service will not work.

   Note:

   The D/41JCT-LS board uses the default.fwl file and does not need to be set. If this server uses 4-port analog boards, continue with Step 6.

   To load the new firmware for a 12-port analog board in Release 5.1:

   a. Under Configured Devices, double-click the name of the Dialogic board, such as *#0*.

   b. In the **Intel Dialogic product Configuration Manager - Properties** window, click the **Misc** tab.

      1. Click the **FirmwareFile** parameter. In the value field, select or type **spfax.fwl**.
      2. Click **OK** to close the window.

   c. Repeat Steps a and b for any other installed Dialogic boards, such as *#1*.

   CAUTION:

   Make no other property changes at this time.

5. Reload firmware:

a. After you set the firmware parameter on all installed boards, close the **Intel Dialogic Product Configuration Manager** window.

b. Wait 30 seconds for all the Dialogic processes to completely stop.

c. Reopen the Intel Dialogic product Configuration Manager application to load the new firmware file. For more information, see Step 1.

d. Click the green **Start** button on the button bar.

e. Wait for the device to start. When service is started, the **Stop** button becomes active and the installed boards show a green light.

Note:

If the drivers fail to start, complete Steps 6 through 11. You must then completely power down and power up the MAS. After the server boots, continue with Testing the port boards on page 303.

f. Click the **Stop** button to stop the Dialogic drivers.

g. After all boards show a red icon, continue with Step 6.

6. Under Configured Devices, double-click the name of the first Dialogic board, such as *#0*.

CAUTION:

If you cannot find a suitable TSF file for this PBX, you must build an appropriate tone file now or the integration will not work. Click **Cancel** in this window, and see Appendix C: Creating a new tone file on page 267.

7. In the **Intel Dialogic product Configuration Manager - Properties** window:

a. Click the **Files** tab.

b. Select the **TSFFileName** parameter, if it is not already selected.

Note:

For a D/41JCT-LS board, you must highlight the **Configured Devices** parameter on the DCM display when you select **Configure Device**. You can then view the **TSFFileName** parameter.

c. Locate the prerecorded TSF file for this PBX or switch:

1. Click the**...** button to browse. In the **Look in** field, navigate to the C:\Avaya_Support\Tone_Files directory.

2. In the **Search File** window, select a TSF file that is appropriate for the PBX to which you are connecting, such as *Avaya-G3-US.tsf*. Double-click the file name.

The system displays the appropriate TSF file in the **Value** field.

Note:

You can type in the **Value** field. This field is editable.

8. After an appropriate TSF file is selected, click the **Misc** tab.

a. Click the **TSFFileSupport** parameter.

CAUTION:

You must have selected an appropriate TSF file for this PBX *before* you set the TSFFileSupport value to **Yes**, or errors might occur.

b. From the **Value** drop-down list, select **Yes**.

c. Click the **DisconnectTone** parameter. From the **Value** drop-down list, select **Yes**.

d. Click **OK** to close the window.

9. Repeat Steps 6 through 8 for any other installed Dialogic boards, such as *#1*. Verify that the settings are correct, and set any values if needed.
10. After all boards are configured, click the green **Start** button on the button bar.

    Wait for service to start. When service is started, the **Stop** button becomes active and the installed boards show a green light.

    Note:

    For a D/120JCT-LS board: If the drivers failed to start in Step 4, you must completely power down and power up the MAS. After the server boots, continue with Testing the port boards on page 303.
11. Close the **Intel Dialogic product Configuration Manager** window.
12. Continue with Testing the port boards on page 303.

Testing the port boards

Test all port boards and channels to verify that they can send and receive calls.

Note:

Sometimes after you apply settings to a port board, the board comes up in a bad state. The Dialogic drivers consistently fail to start, and the Event Viewer shows **dlgc_log** errors. If this problem occurs, take the power off the boards. Turn off the server, and then turn on the server again. The power cycle corrects the port board problems.

Preparing for the test

Prepare for port board testing as follows:

1. Stop Modular Messaging voice service:
   a. Access the window to monitor services using one of these methods:
      - Double-click the **Monitor** icon on the desktop. In the left pane, click **Services**.
      - Right-click **My Computer** and select **Manage**. In the **Computer Management** window, in the left (Tree) pane, expand **Services and Applications**, and click **Services**.
   b. In the right pane, scroll down to **MM Messaging Application Server**.
   c. Right-click **MM Messaging Application Server** and select **Stop**.
2. *For software-only upgrades,* the Dialogic Line Tester program is not yet installed. Access the test program on the application media as follows:
   a. Insert Disk 1 of the *Avaya Modular Messaging Messaging Application Server Software* media into the MAS drive.
   b. Close the drive door and wait for the green LED to go out. Click **OK**.
   c. Navigate to the MAS drive.
   d. Navigate to the **Install** directory, and then to the **DLTest** subdirectory.
   e. Double-click the file **DLTest.exe**.

   The **Dialogic Line Test Application** window opens.
3. *For T1-QSIG or E1-QSIG boards,* set up the test options as follows:
   a. Click **Start** > **Programs** > **Avaya Modular Messaging** > **Dialogic Line Tester**.
   b. In the **Dialogic Line Test Application** window, click **Tools** > **Options**.

c. In the **Options** window, select the correct values for each field. Use the configuration notes to identify the correct values:
   - For **Layer 1 Protocol**, select the required ISDN protocol from the drop-down list.
   - For **Number Type**, select the destination number type.
   - For **Number Plan**, select the destination number plan.

Note:

The values you select here must be the same as those entered on the PBX or switch. Check the configuration notes.

d. After you select the correct values, click **OK**.

Testing the ports

To test Dialogic port board functionality:

1. Access the Dialogic Line Test application using one of these methods:
   - Click **Start** > **Programs** > **Avaya Modular Messaging** > **Dialogic Line Tester**.
   - *For software-only upgrades,* access the Dialogic Line Tester program from the applications media. For this procedure, see Step 2 in Preparing for the test on page 303.

   The **Dialogic QSIG - Line Test Application (or DLTest)** window opens. The name of the window varies, depending on the type of port boards installed.
2. Verify that all port numbers and channel designations are listed.
3. Test the incoming call connectivity of all ports as follows:
   a. From a handset on the same PBX, dial each port individually.
      - For QSIG boards, repeatedly dial the number for that group of ports. The switch connects to the next port in the list for each new call.
      - For analog and set emulation boards, use the individual port extensions.
   b. Check the **Status** column.
      - Verify that each port shows **Received call** followed by **Connected**.
      - For different status conditions, see Table 16: Status messages for Dialogic Line Test on page 305.

      The system should answer each connected call with a standard welcome message.

Table 16: Status messages for Dialogic Line Test

Status	Description	Highlight
Channel starting…	The channel is being started.	Normal
Channels idle…	The channel is idle.	Normal
Waiting for call…	The channel is waiting for an incoming call.	Normal
Received call…	An incoming call is being processed.	Normal
Dialling number…	A number is being dialed to make an outgoing call.	Normal
Resetting…	The user reset the channel.	Normal
Line Busy.	An outgoing call was made, but a busy tone was detected.	Normal
No Answer.	An outgoing call was made, but the call was not answered.	Normal
Connected.	An incoming or outgoing call was answered, so the call is now connected.	Normal
Call was disconnected.	An incoming or outgoing call was disconnected.	Normal
Error.	A general error with the channel occurred.	Error
Error, No Dial tone detected.	An outgoing call was made, but no dial tone was detected before dialing.	Error

4. Test the outcalling capability of all ports.
   a. Select a port in the **Dialogic Line Test Application** window under **Port Number**.
   b. Type the number of an extension on this PBX in the **Dial Number** field.
   c. Click **Dial Number**.
   d. When the dialed extension rings, answer the call and hang up.
   e. Select the next port number, and click **Dial Number** again.
   f. Repeat Steps d and e until all ports are tested.
5. After testing is complete, close the **Dialogic Line Test Application** window.
6. If a problem occurs, check:
   - the board configuration
   - the physical connections between the board and the PBX
   - the PBX configuration itself

   For example, verify that you have configured the correct PBX type and administered the values according to the current configuration notes.

7. Continue with Chapter 6: Configuring the voice mail system on page 77.

Appendix F: Updating Modular Messaging software

You must update the Avaya Modular Messaging software after an installation or upgrade to bring it up to date with the latest changes. Software updates might include the latest Avaya Service Pack (SP) or Avaya software patches (hotfixes).

Topics in this appendix include:

- Obtaining software updates from the Web on page 307
- Installing software updates on each MAS on page 308

Considerations for applying updates include:

- You can apply multiple hotfixes to a system.
- Modular Messaging components can have multiple updates applied to them.
- If you apply a Service Pack, the program automatically uninstalls all previously applied hotfixes, patches, and Service Packs.

Obtaining software updates from the Web

Obtain the latest Avaya software updates from the Web.

To obtain any Avaya software updates for this system:

1. Use a computer that can access the Internet.
2. Go to the Avaya Support Web site at http://www.avaya.com/support.
3. In the RESOURCE LIBRARY, click the link for **Downloads**.
4. Beneath DOWNLOAD BY PRODUCT NAME, under **M**, click **Modular Messaging**.
5. On the Modular Messaging: Downloads page, select Release **5.1** from the drop-down list.
6. Download any files needed to update a Release 5.1 system. For example, download the latest DCT executable file (MMDCT.exe) and the latest Modular Messaging 4.0 Service Pack. Ensure that you download any instructions required to install the Service Pack or software update.
7. Copy the downloaded files to a USB storage device such as a flash drive, memory stick, or equivalent.

   The files are often bundled in a compressed archive, such as a zip file. Use the appropriate tools on your computer to extract the files into an appropriate directory.

Installing software updates on each MAS

To start the update procedure, you must copy the Avaya software updates to each MAS. You then run an installation wizard to install the updates.

Copying files to the MAS

To copy the Avaya software updates to an MAS:

1. Switch the monitor to show the appropriate MAS.
2. Insert the USB drive into any USB port on the server.
   - You can use any of the available USB ports on the back of the server.
   - Remove the front bezel to access the USB port on the front of an Avaya S3500-family message server.
3. Copy the software update files to the MAS:
   a. Navigate to the appropriate directory on the USB storage device.
   b. Right-click the software update file that you downloaded in Obtaining software updates from the Web on page 307. For example, file *MAS300100.exe*. Select **Copy**.
   c. Navigate to the C:\Avaya_Support directory.
   d. Right-click in a blank area in the right pane, and select **Paste**.
   e. Verify that the correct file is listed in the C:\Avaya_Support directory.
   f. If you downloaded more than one file, repeat Steps b through e to copy all the software files and the update instructions to the MAS.
4. Safely remove the USB drive from the server:
   a. Double-click the icon on the task bar to **Safely Remove Hardware**.
   b. Follow the prompts to safely remove the USB drive.
5. Repeat Steps 1 through 4 for each MAS in the system.
6. Open and review the installation instructions for this specific software update.

Installing the updates on each MAS

Important:

Always read the Release Notes that come with each software update. The following are general instructions for installing updates on each MAS. The Release Notes provide specific software update information.

To install the Avaya software updates on this MAS:

1. Double-click the software update file.

   The program unpacks the file, and then runs the Modular Messaging Installation Wizard.

2. In the Modular Messaging Installation Wizard window:

   a. Verify that all applicable patches for this system are selected.

   b. Click **Install**.

   If the **Install** button is not active, you do not need to apply these software updates to the system. Continue with Step 6.

   Note:

   For installation procedures and a description of components that can be installed, click the **Help** button on the installation wizard window.

3. If you are installing a Service Pack (SP), an **Installation Wizard - Update Warning** window opens. The window displays the hotfixes and Service Packs that the program must uninstall before the update can proceed. Click **Continue**.

   Note:

   If hotfixes are applied to the system that are not included in the SP update, the program lists them with a warning.

4. If this system does not have the correct version of Windows Installer, install it now. Otherwise, continue with Step 5:

   a. The **Open File - Security Warning** window prompts you to install a WindowsInstaller application from Microsoft Corporation. Click **Run**.

   b. Follow any additional prompts to install the new Windows Installer application. If the program prompts you to restart the server, reboot the system.

   c. If the new version of Windows Installer fails to install, install the updated WindowsInstaller application before you proceed. For example, you might need to download the application separately, and install it using the local administrator account for this MAS.

5. After you click **Install**, monitor the software update progress:

   a. In the **Services** window, the wizard stops all appropriate Modular Messaging and related services.

b. Windows Installer installs all relevant software updates on the MAS.

c. In the **Services** window, click **Continue with installation**. You do not have to wait for all services to restart.

d. After the installation is complete, click **Close**.

6. To verify the software updates that are installed on this MAS:

a. Log on to the MAS.

b. Select **Start > Programs > Avaya Modular Messaging.**

c. Click **About Modular Messaging** and verify the version of MM installed.

d. Click **Patches** and verify that service packs and patches are installed.

7. After installation and verification is complete, close all open windows.

Appendix G: Reloading software on an Avaya MAS

This appendix describes how to reload the operating system and application software on an Avaya Messaging Application Server (Avaya MAS) or an Avaya-provided supplementary server. You might install new software after a hard disk is replaced or as part of the upgrade of an Avaya MAS.

Loading new MAS software

To copy new software to the Avaya Messaging Application Server (Avaya MAS) or Avaya-provided supplementary server:

1. If the server is not on, turn on the server.
2. Verify that the monitor is showing the correct server.
   - For a 2-port Belkin KVM switch, the MAS is connected to one of the two computer ports.
   - For an 8-port Belkin KVM switch, the first MAS port is labeled **VGA 02**. Subsequent MASs and any supplementary servers, if present, are connected to computer ports **VGA 03**, **VGA 04**, and so on.
3. If the monitor displays a different server, toggle the ports to show the correct server.
   - To have a 2-port Belkin KVM switch show a different server:
     a. Slowly press **Scroll Lock** twice.

        The LED on top of the Belkin KVM switch starts to blink.

     b. Type the port number on the keyboard. For example, type **2** for port 2.
   - To have an 8-port Belkin KVM switch show a different server:
     a. Slowly press **Scroll Lock** twice within 2 seconds.
     b. Select the server to display using one of these methods:
        - Press the up (or down) arrow key to change to the server connected to a higher (or lower) port number.
        - Type the port number on the keyboard. For example, type **2** for port 2.

     For complete user and troubleshooting instructions, see the KVM switch documentation.

Loading the new software

To load the new software:

1. Insert the *Avaya Modular Messaging Messaging Application Server (MAS) and Boot Software for Microsoft Exchange and IBM Domino* media into the DVD drive. Wait for the green LED on the drive to go out.
2. Press **Ctrl**+**Alt**+**Del** to reboot the system.
   a. In the Windows Security window, click **Shut Down...**
   b. In the Shut Down Windows window, select **Restart**. Click **OK**.
3. When the computer starts to boot, the system might display a warning that the hard drive contents will be overwritten.
   a. Press any key to continue.

      A message confirms that the hard drive will be overwritten.
   b. Press any key to continue.

   The MAS starts to copy the disk image to the hard disk. The entire copy procedure takes up to 30 minutes.
4. At the prompts, insert the disk. When the DVD drive light turns dark, click **OK**.
5. When prompted, remove the media before the system reboots. Press any key to continue.

   The system reboots and runs the Windows Setup program.
6. If Dialogic cards are installed, you receive a warning that the Dialogic drivers are not supported. Click **Yes** to continue the installation.
7. If a modem is connected, a **Hardware Installation** window opens. Click **Yes** to continue the installation.
8. The **Windows Setup** wizard runs. To complete the wizard:
   a. On the **Welcome** screen, click **Next**.
   b. On the **License Agreement** screen, choose **I accept this agreement**. Click **Next**.
   c. On the **Your Product Key** screen, type the Windows product key for this server.

   Note:

   Each Windows computer has a unique product key for Windows 2003 or Windows 2003 R2. Enter the number exactly as shown.

   - For a new S3500-family server, the product key sticker is located inside the empty drive tray on the lower-left of the server chassis. You can remove the drive tray to easily read the sticker.
   - For a new S8730-family server, the product key sticker is located on the right-hand edge of the server chassis.

d. Click **Next**.

The server automatically reboots.

Preparing the server to boot

You must load all required information and activate the operating system before you proceed with server configuration:

1. When the system prompts you to log on:
   a. Press **Ctrl**+**Alt**+**Del**.
   b. In the **Log On to Windows** window, leave the user name as **Administrator**.
   c. Leave the password field blank.
   d. Press **Enter** or click **OK**.

   CAUTION:

   If you are completing an upgrade or recovery that requires a DCT file, you must copy the latest DCT data file to the C:\ directory now. Some servers do not recognize a USB drive after a system restart.
2. Activate the Microsoft Windows operating system before you restart the server. Use site-specific procedures. For more information, see Activating Microsoft Windows on page 314.
3. After the Microsoft Windows operating system is active, double-click the **MM_Setup** icon on the desktop.

   An **MM_Setup** window opens.
   a. At the prompt, insert the *Avaya Modular Messaging Messaging Application Server Software*, either for Avaya S3500 servers or for Avaya S8730 servers, into the MAS and press any key to continue.
   b. Follow any instructions that appear.
   c. When the system prompts you, remove the DVD from the MAS and press any key to continue.

      MM_Setup reports that Modular Messaging configuration program will run after the server reboots.
   d. Press any key to continue.

   The computer stores the information and shuts down.
4. To bring the MAS into service, continue with the appropriate procedure:
   - For an Avaya MAS upgrade, see Running the Modular Messaging Configuration Wizard on page 177.

- For an Avaya MAS disk failure recovery, see Appendix H: Disk failure recovery on page 317.

Activating Microsoft Windows

You must activate the Microsoft Windows operating system whenever you reload the operating system. You must activate the Windows operating system before you run MM_Setup.

The Microsoft Windows activation procedure requires you to use either the Internet or, if the customer site does not have an Internet connection, a telephone.

- For telephone activation, continue with Activating Microsoft Windows using a telephone on page 314.
- For Internet activation, continue with Activating Microsoft Windows through the Internet on page 315.

Activating Microsoft Windows using a telephone

To activate the Microsoft Windows operating system using a telephone:

1. Click **Start** > **Activate Windows**.
2. In the Activate Windows window:
   a. Click **Yes, I want to telephone a customer service representative to activate Windows**.
   b. Click **Next**.

   The program generates a new installation ID.
3. On the **Activate Windows by Phone** screen:
   a. Select the country in which this Modular Messaging system is installed.
   b. Call the appropriate telephone number shown on the screen.
   c. Follow the voice prompts or the directions from the customer service representative to provide the unique installation ID shown on the screen.
   d. Enter the confirmation ID that the automated system or customer service representative gives you.
   e. Click **Next**.
4. On the confirmation screen, click **Finish**.
5. Return to Preparing the server to boot on page 313, Step 3.

Activating Microsoft Windows through the Internet

To activate the Microsoft Windows operating system through the Internet:

1. Double-click the **Internet Explorer** icon on the desktop.
2. At the Enhanced Security message, click **OK**.
3. In Internet Explorer, click **Tools** > **Internet Options**.
   a. In the **Internet Options** window, click the **Connections** tab.
   b. Click **LAN Settings**.
   c. In the **Local Area Connection (LAN) Settings** window, specify the settings to use for this site. Click **OK**.
   d. Click **OK** to close the **Internet Options** window.
   e. Close Internet Explorer.
4. Click **Start** > **Activate Windows**.
5. In the **Activate Windows** window:
   a. Click **Yes, let's activate Windows over the Internet now**.
   b. Click **Next**.
   c. When the system prompts you to register the system, click **No**.

   The program checks for Internet connectivity.
6. If connectivity fails, set up or adjust the Internet connections. Complete the screen and click **Next**.
7. On the **Thank you** screen, click **OK**.
8. Return to Preparing the server to boot on page 313, Step 3.

Appendix H: Disk failure recovery

This appendix describes the procedure for recovering from a catastrophic disk failure on a system that is running Modular Messaging Release 5.1 software. See the checklist that is appropriate for your MAS:

- For an Avaya MAS, see Recovering from a catastrophic disk failure on an Avaya MAS on page 318.
- For a customer-provided MAS, see Recovering from a catastrophic disk failure on a customer-provided MAS on page 324.

Recovering from a catastrophic disk failure on an Avaya MAS

An Avaya S8730-family server consists of two primary hard disks and the disks are hot swappable. An MAS running on an Avaya S8730-family server does not fail if one of the hard disks fails. If a hard disk fails, the MAS continues to function and an alarm goes off asking for a replacement of the failed drive. For more information on replacing a hard drive in an S8730-family server, see the *Maintaining the Avaya S8730 server for Modular Messaging* guide.

However, in the rare event of failure of both the disks, the MAS runing on the server also fails. In this case, the MAS needs to be rebuilt following the below mentioned procedures.

Overview

In summary, to restore an Avaya MAS you need to:

1. Replace the failed drive
2. Install a new Avaya boot image
3. Perform Windows Product Activation (WPA)
4. Run the Modular Messaging setup utility
5. Run the Modular Messaging Configuration wizard
6. Administer anti-virus software
7. Install Modular Messaging Active Directory Exchange extensions
8. Restore customer data
9. Configure the voice mail system
10. Configure services
11. Perform acceptance tests on the entire system
12. Back up the restored system and hand it off to the customer

Table 17: Avaya MAS restore procedure on page 320 lists the steps necessary to restore an Avaya MAS. It contains page references to detailed instructions for each step.

Requirements for restore of Avaya MAS

To successfully restore a system to Modular Messaging Release 5.1, you need:

- A replacement hard disk drive.
- Release 5.1 of the Modular Messaging application software.
  - *Avaya Modular Messaging Messaging Application Server (MAS) and Boot Software for Microsoft Exchange and IBM Domino* media.
  - *Avaya Modular Messaging Messaging Application Server Software* media.
  - *Avaya Modular Messaging Documentation*
- The following information and software from the Avaya Support Web site at http://www.avaya.com/support. For more information about how to access these items on the Web site, see Obtaining the DCT data file on page 3.
  - The most current copy of the configuration notes for this switch integration.
  - Avaya software updates that are required to bring the Avaya Modular Messaging software up to date after a restore. Download this software to a USB storage device. For more information about downloading the updates, see Appendix F: Updating Modular Messaging software on page 307.
  - The latest copy of the DCT executable file (MMDCT.exe). Download the file from the Avaya support Web site to a USB storage device.
- Customer-provided Microsoft Exchange System Management Tools. (Microsoft Exchange 2003 System Management Tools are highly recommended. The procedures in this chapter describe installation with the 2003 tools.) When installing a system with Exchange 2007 mail servers, you will require the 32-bit version of the Exchange 2007 Management Tools and additional software downloads. For more information, see Installing third-party software on page 46.
- Microsoft Exchange 2003 Service Pack 2 for Exchange 2003 System Management Tools.
- Access to the most recent backup DCT data file as well as any backup files that will need to be restored to the system.

To restore an MAS configuration after a catastrophic disk failure, you must have a previously saved and updated DCT data file. For information about maintaining a current DCT data file, see Using the DCT to collect information from an MAS on page 125 or see the Data Collection Tool Online Help or its printed version, *Avaya Modular Messaging Data Collection Tool Help*, for a complete description of the procedure to analyze a system with the DCT executable file.

CAUTION:

You cannot restore the MAS without a DCT data file that was created by analyzing the system.

Include the updated DCT data file in any regular, scheduled backups administered for this site so that the file is available if needed for a restore.

Restoring the Avaya MAS

To restore the MAS, complete the tasks in the following checklist. As you complete a task, make a check mark in the " ✔ “column. For additional information or detailed procedures, see the referenced page number.

Table 17: Avaya MAS restore procedure

✔	Procedure	Page	Comments
	Download required Avaya software updates. This includes the latest DCT executable file (MMDCT.exe).	4	Web access required.
	Collect any software media that is needed, such as Microsoft Windows updates or anti-virus software.	120	Leave customer media on-site.
	For a system with an Exchange 2003 peer mail server, obtain the Exchange System Management Tools and Exchange 2003 Service Pack 2 from the customer. For a system with an Exchange 2007 peer mail server, download Management Tools and additional required software including MAPI Client, Powershell 1.0, Microsoft Management Console 3.0 and .NET 2.0 as needed.	41	
	Obtain and review the configuration notes for any changes.		Web access required.
	Replace the hard drive. (For instructions for replacing an Avaya S3500 MAS hard drive, see the *Modular Messaging S3500-Family Hardware Maintenance and Additions* manual. For instructions for replacing an Avaya S3400 MAS hard drive.)		
	Copy the backup DCT data file (*.mmdct) to a USB storage device with the latest DCT executable file (MMDCT.exe).		

Table 17: Avaya MAS restore procedure

✔	Procedure	Page	Comments
	Verify that all additional backup files that must be restored are at a location accessible to the MAS, including: • customized tone files • customized prompt files • caller applications • Avaya license files. • SIP certificate files • WSO system services data file • Audit database • Operation history and transaction databases	115	See Backing up the system on page 115, for a complete list of the file names and their locations on the system.
	Switch the monitor to display the Avaya MAS that you are restoring.	122	
	Install a new boot image 1. Insert the *Avaya Modular Messaging Messaging Application Server (MAS) and Boot Software for Microsoft Exchange and IBM Domino* media in the DVD drive of the MAS. 2. Start the computer and insert or remove disks as prompted.		
	Enter the Windows product key.	128	
	Copy the backup DCT data file (*.mmdct) to the MAS.		
	Run MM_Setup from the desktop. The machine shuts down after the utility runs.		
	Perform Windows Product Activation.		
	When the Modular Messaging Configuration Wizard launches, click **Next** on the Welcome screen. Select the backup DCT data file by selecting the file if it is displayed or by browsing to it.		
	Review the DCT data file and complete any empty fields. Save the file.		
	On the MAS Number screen, select the number of the MAS that you are recovering.		

Table 17: Avaya MAS restore procedure

✔	Procedure	Page	Comments
	Complete the Windows Setup wizard and continue with the Modular Messaging Configuration Wizard. **Note:** The installaton requests a reboot after Net configuration and Windows does not autologon. Instead, you are prompted with the Logon screen, where you need to press Ctrl+Alt+del and click OK to continue with the logon and the installation		
	For a system with an Exchange 2003 peer mail server, install Exchange System Management Tools.		
	For a system with an Exchange 2003 peer mail server, install Exchange Server 2003 SP2.		
	For a system with an Exchange 2007 peer mail server, install Exchange 2007 Management Tools and additional required software.	46	
	Install anti-virus software.		
	Complete the configuration wizard.		
	Administer anti-virus software.		
	Install Modular Messaging software updates.		
	Update Microsoft Windows.		Follow site-specific procedures.
	Disable the private LAN.		
	Enter RAS IP address on the MAS		
	Install Modular Messaging Active Directory Exchange extensions on the MAS.		

Table 17: Avaya MAS restore procedure

✔	Procedure	Page	Comments
	Configure port boards, if necessary.	75	Step is required only for port boards that do not use one of the automatic-configuration switch integrations. This is first step in port board configuration. Configuration is completed later in procedure.
	Restore customer data including: ● customized tone files ● customized prompt files ● caller applications ● SIP certificate files ● WSO system services data file ● Audit database ● Operation history and transaction databases		
	Specify the preferred language for the MAS.	79	For a non-English Windows operating system.
	If this is the MAS that held the Avaya license file, transmit the backup license file to the MAS using the preferred customer method. The recommended location for the license file is on MAS #1 in the C:\Avaya_Support directory. Install the license.	85	
	Verify license installation.	87	
	Configure MAS-specific parameters: ● INADS alarming, if used ● Port boards ● Switch integration	94	
	Restart messaging service.	98	
	Verify call-handling capability.	100	
	Verify alarming setup.	100	
	Verify Tracing Service operation, if you installed Tracing Server software on this server.	101	
	Verify Audit Service	101	

Table 17: Avaya MAS restore procedure

✔	Procedure	Page	Comments
	Run all acceptance tests that are relevant to the system.	108	
	Back up the MAS using the regular backup procedures for this site. Be sure to include the revised DCT data file in this backup.	115	
	Run the following tests: • Disk defragmenter system tool • chkdsk command		
	Complete steps necessary to turn the system over to the customer.	116	

Recovering from a catastrophic disk failure on a customer-provided MAS

Overview

There may be site-specific requirements and procedures for recovering from a catastrophic disk failure. Use the procedures appropriate to your site. The following is one procedure that can be used to recover the CPE MAS.

In summary, to restore a customer-provided MAS you will need to:

1. Replace the failed drive.
2. Configure a network card to support the corporate LAN connection
3. Manually join the Windows domain
4. Install and enable Windows services
5. Install and run the Modular Messaging Configuration Wizard
6. Administer anti-virus software
7. Install Modular Messaging Active Directory Exchange extensions
8. Restore customer data
9. Configure the voice mail system
10. Configure services
11. Perform acceptance tests on the entire system.
12. Back up the restored system and hand it off to the customer.

Table 18: CPE MAS restore procedure on page 326 lists the steps necessary to restore a customer-provided MAS. It contains page references to detailed instructions for each step.

Requirements for restore of CPE MAS

To successfully restore a system to Modular Messaging Release 5.1, you need:

- A replacement hard disk drive.
- Release 5.1 of the Modular Messaging application software.
  - *Avaya Modular Messaging Messaging Application Server Software* media
  - *Avaya Modular Messaging Documentation*

- The following information and software from the Avaya Support Web site at http://www.avaya.com/support. For more information about how to access these items on the Web site, see Obtaining the DCT data file on page 3.
  - The most current copy of the configuration notes for this switch integration.
  - Avaya software updates that are required to bring the Avaya Modular Messaging software up to date after a restore. Download this software to a USB storage device. For more information about downloading the updates, see Appendix F: Updating Modular Messaging software on page 307.
  - The latest copy of the DCT executable file (MMDCT.exe). Download the file from the Avaya support Web site to a USB storage device.
- Customer-provided Microsoft Exchange System Management Tools. (Microsoft Exchange 2003 System Management Tools are highly recommended. The procedures in this chapter describe installation with the 2003 tools.) When installing a system with Exchange 2007 peer mail servers, you will require the 32-bit version of the Exchange 2007 Management Tools and additional software downloads. For more information, see Installing third-party software on page 68.
- Microsoft Exchange 2003 Service Pack 2 for Exchange 2003 System Management Tools.
- Access to the most recent backup DCT data file as well as any backup files that will need to be restored to the system.

To restore an MAS configuration with this procedure after a catastrophic disk failure, you must have a previously saved and updated DCT data file. For information about maintaining a current DCT data file, see Using the DCT to collect information from an MAS on page 125 or see the DCT online help system or its printed version, *Avaya Modular Messaging Data Collection Tool Help*, for a complete description of the procedure to analyze a system with the DCT executable file.

CAUTION:

You cannot restore the MAS without a DCT data file that was created by analyzing the system.

Include the updated DCT data file in any regular, scheduled backups administered for this site so that the file is available if needed for a restore.

Restoring the CPE MAS

To restore the MAS, complete the tasks in the following checklist. As you complete a task, make a check mark in the " ✔ “column. For additional information or detailed procedures, see the referenced page number.

Table 18: CPE MAS restore procedure

✔	Procedure	Page	Comments
	Download required Avaya software updates, including the latest version of the planning forms and the DCT executable file (MMDCT.exe).	4	Web access required.
	Collect any software media that is needed, such as Microsoft Windows updates or anti-virus software.		Leave customer media on-site.
	Obtain and review the configuration notes for any changes.		
	Copy the backup DCT data file (*.mmdct) to a USB storage device with the latest DCT executable file (MMDCT.exe).		
	For a system with an Exchange 2003 peer mail server, obtain the Exchange System Management Tools and Exchange 2003 Service Pack 2 from the customer. For a system with an Exchange 2007 peer mail server, download Management Tools and additional required software including MAPI Client, Powershell 1.0, Microsoft Management Console 3.0 and .NET 2.0 as needed.	69	
	Obtain virus-checking software for the MAS if required.	7	Customer obtains.
	Replace the hard drive.		For instructions, see the manufacturer instructions.
	Install the Windows 2003 Server operating system.		
	Update Microsoft Windows software	63	
	Adjust system values: • Event Viewer values • File and Printer Sharing properties • Windows 2003 Server operating system values	59	

Table 18: CPE MAS restore procedure

✔	Procedure	Page	Comments
	Add the Modular Messaging customer account and technical support account to the local administrators group.	65	
	Install Microsoft Windows SP2.	57	
	Verify that the USB storage device with the DCT data file and most recent DCT executable file is inserted in the USB port.	65	
	Copy the backup DCT data file (*.mmdct) to a directory on the MAS.	65	
	Verify that all additional backup files that must be restored are at a location accessible to the MAS. This includes: • customized tone files • customized prompt files • caller applications • Avaya license files. • SIP certificate files • WSO system services data file • Audit database • Operation history and transaction databases	115	
	Log on to the MAS using the Modular Messaging customer account.		
	When the Modular Messaging Configuration Wizard launches click **Next** on the Welcome screen. Select the backup DCT data file by selecting the file, if displayed, or by browsing to it.	65	
	Review the DCT data file and complete any empty fields. Save the file.	65	
	On the MAS Number screen, select the number of the MAS that you are recovering.	66	
	For a system with an Exchange 2003 peer mail server, install Exchange System Management Tools.	70	
	For a system with an Exchange 2003 peer mail server, install Exchange Server 2003 SP2.	70	

Table 18: CPE MAS restore procedure

✔	Procedure	Page	Comments
	For a system with an Exchange 2007 peer mail server, install Exchange 2007 Management Tools and additional required software including MAPI Client, Powershell 1.0, Microsoft Management Console 3.0 and .NET 2.0 as needed.	69	
	Administer Anti-virus software.	48	
	Change LAN name and power management settings	71	
	Enter RAS IP addresses for this MAS	72	
	Set the logging location if other than default.	74	
	Administer anti-virus software.	48	
	Install Modular Messaging Active Directory Exchange extensions on the MAS.	33	
	Configure port boards, if necessary.	75	Step is required only for port boards that do not use one of the automatic-configuration switch integrations. This is first step in port board configuration. Configuration is completed later in procedure.
	Restore customer data including: • customized tone files • customized prompt files • caller applications • SIP certificate files • WSO system services data file • Audit database • Operation history and transaction databases		
	Specify the preferred language for the MAS.	79	For a non-English Windows operating system.
	If this is the MAS that held the Avaya license file, transmit the backup license file to the MAS using the preferred customer method. The recommended location for the license file is on MAS #1 in the C:\Avaya_Support directory. Install the license.	85	

Table 18: CPE MAS restore procedure

✔	Procedure	Page	Comments
	Verify license installation.	87	
	Configure MAS-specific parameters: • INADS alarming, if used • Port boards • Switch integration	94	
	Restart MM Messaging Application Server service.	98	
	Verify call-handling capability.	100	
	Verify alarming setup.	100	
	Verify Tracing Service operation, if you installed Tracing Server software on this server.	101	
	Verify Audit Service	101	
	Run all acceptance tests that are relevant to the system.	108	
	Back up the MAS using the regular backup procedures for this site. Be sure to include the revised DCT data file in this backup.	115	
	Run the following tests: • Disk defragmenter system tool • chkdsk command		
	Complete steps necessary to turn the system over to the customer.	116	

Appendix I: Removing Modular Messaging components from an MAS

This appendix describes how to remove Modular Messaging software components from a server where they are currently installed. Normally this procedure is used to prepare a server for reassignment to another purpose.

CAUTION:

Do not uninstall any of the following Modular Messaging services from an MAS that is running the Messaging Application Server service.

To stop running unneeded services on an in-service MAS, move services to other servers using the Modular Messaging administration tools and disable the services that the server does not need.

- MM Alarming Server service
- MM Audit Service
- MM Call Me
- MM Event Monitor Server
- MM Fault Monitor Service
- MM Fax Service
- MM Mailbox Monitor
- MM Messaging Application Server
- MM MWI
- MM Performance Monitor Server
- MM Process Monitor Server
- MM Service Connector
- MM Tracing Server

Removing software components

To remove Modular Messaging software components, use the Modular Messaging Uninstallation Wizard.

1. Click **Start** > **Settings** > **Control Panel**.
2. From the Control Panel window, double-click **Add/Remove Programs**.
3. In the **Add/Remove Programs** window, scroll down the list of currently installed programs to **MM Uninstallation Wizard**.

   Important:
   Do not use **Add/Remove Programs** to uninstall the **MM** services listed. Use only the **MM Uninstallation Wizard**.
4. Select the Modular Messaging software components that you want to remove.
5. Click **Uninstall** and follow the prompts to confirm your choices.
6. The removed components will continue to appear in the **Add/Remove Programs** list until you close and reopen **Add/Remove Programs**.

Appendix J: Installing and configuring the AudioCodes gateway

This appendix describes how to install and configure the AudioCodes gateway.

The procedure has two parts:

Field Configuration: This procedure must be performed by a technician on the site where the PBX switch and the AudioCodes gateway are physically located. This procedure must be completed before you attempt to configure the AudioCodes gateway remotely.

Remote Configuration: This procedure can either be performed by a technician at a remote site using remote access tools or by the technician on the site where PBX and AudioCodes gateway are located.

Topics in this appendix include:

- Installation prerequisites on page 334
- Installing and configuring the AudioCodes gateway at switch location on page 335
- Continue configuring the AudioCodes gateway on page 338

Installation prerequisites

Ensure that you have the following before you start the AudioCodes gateway installation:

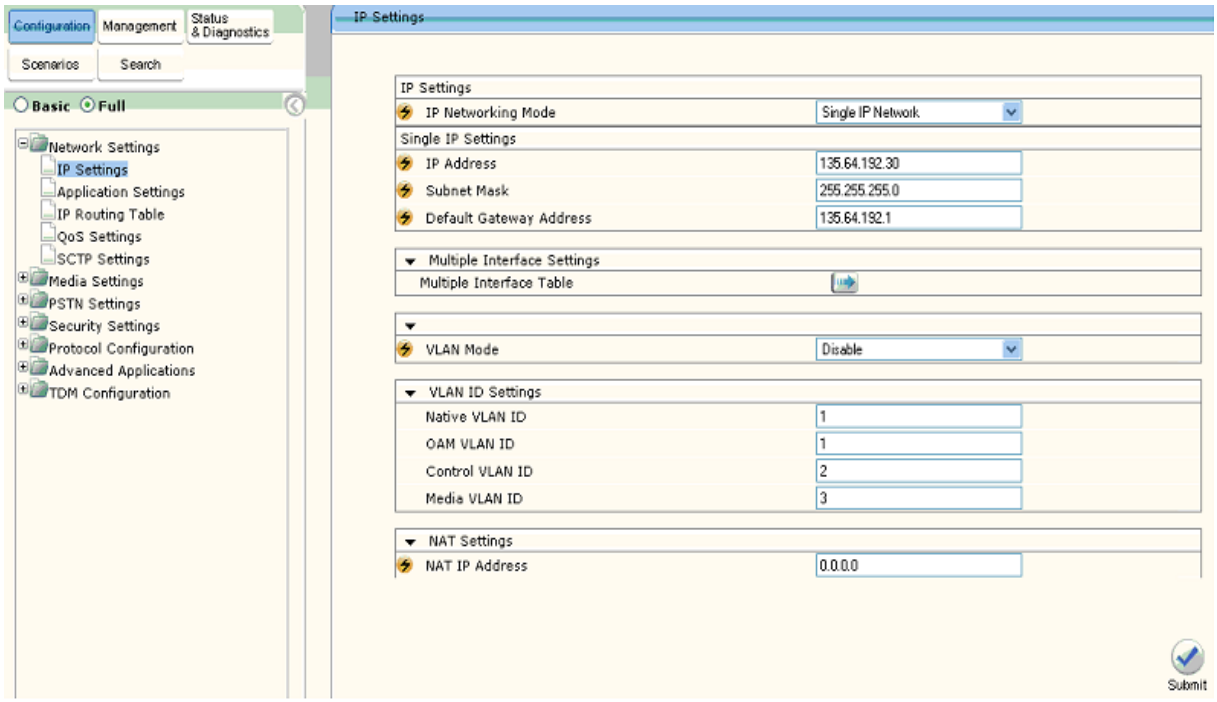
- DCT file and MM DCT tool (MMDCT.exe)
- AudioCodes gateway with interface modules required for this installation.
- Configuration notes for AudioCodes gateway downloaded from the AudioCodes Web site at http://www.audiocodes.com/avaya.
- Avaya PBX configuration note where required.
- Download AudioCodes firmware and details of the firmware version required for this installation from the AudioCodes Web site at http://www.audiocodes.com/avaya.
- The following information from the AudioCodes gateway configuration notes:
  - Cabling requirements
  - PBX configuration requirements. See section 3.0 of configuration notes for AudioCodes gateway.
- X-Over cable
- A laptop
- Machine on customer's corporate LAN with access to Internet Explorer used to configure the AudioCodes gateway.

Installing and configuring the AudioCodes gateway at switch location

Perform the following steps locally.

1. Configure the PBX. Use the configuration notes downloaded from the AudioCodes Web site.
2. Complete the PBX connection patching.
3. Complete ethernet connection patching.
4. Complete the following steps to physically install the gateway:
   a. Unpack the AudioCodes gateway.
   b. Mount the AudioCodes gateway in the rack.
   c. Connect the PBX to the AudioCodes gateway.
   d. Connect one end of the X-Over cable to the left Ethernet port on the AudioCodes gateway.
5. Prepare the computer for initial AudioCodes gateway configuration:
   a. Connect the other end of X-Over cable to the NIC on the laptop.
   b. Change the IP Address of the computer using the following steps:
      1. Open Control and double-click Network Connections. The system opens the **Network Connections** window.
      2. Select the LAN connection, right-click and select **Properties**.
      3. In the **General** tab, click **Internet Protocol (TCP/IP)**.
      4. Click **Use the following IP address** and change the IP address to 10.1.10.11.
      5. Click **OK**.
      6. Close all open Windows.
   c. Launch the Internet Explorer (IE) and complete the following to clear the proxy server settings.
      1. Click **Tools > Internet Options**.
      2. In the **Internet Options** dialog box, click **Connections** tab.
      3. Click LAN Settings. The system opens Local Area Networks (LAN) Setting dialog box.
      4. Clear the **Use a proxy server for your LAN** check box.
      5. Click **OK** to close IE and for the changes to take effect.

Figure 10: Configuring AudioCodes gateway



6. Complete the initial IP configuration of the AudioCodes gateway:
   a. Launch Internet Explorer.
   b. Enter 10.1.10.10 in the IE address bar. This is the factory default IP address for the Audiocodes gateway.
   c. When prompted, enter ***Admin*** *as* the account name and the password. Note that the account name and password are case-sensitive.

      The system opens the AudioCodes Gateway WebAdmin Home Page.
   d. Click the **Configuration** tab on the left pane.
   e. Click **Full**.
   f. Expand **Network Settings** by selecting the **+** symbol.
   g. Click **IP Settings**.

      The system displays **IP Settings** page.
   h. In the **IP Networking Mode** field, click **Single IP Network**
   i. Change the **IP Address** to the value assigned to the gateway for your network.
   j. Change the **Subnet Mask** to match the subnet mask for your network.
   k. Change the **Default Gateway Address** to match the default gateway for your network.
   l. Click **Submit** to save the changes.

WARNING:

Ensure that you *do not* disconnect the power to the AudioCodes gateway at this stage. If you disconnect the power, you loose the changes made to IP Address, until you save the settings in step 4d described in Continue configuring the AudioCodes gateway on page 338.

If the power to the device is disconnected then the IP Address changes will be lost until we reach step x, the step where the burn occurs

Note:

When you submit the changes, the connection between the AudioCodes gateway and the computer is lost. Therefore, you must complete step 7 before you continue. You can now set the computer back to its original network configuration.

7. Connect the AudioCodes gateway to the network.
   a. Remove X-Over cable from the Ethernet port on the AudioCodes gateway.
   b. Connect the network cable for the customers corporate LAN to the first Ethernet port on the AudioCodes gateway.
8. Connect to the AudioCodes Gateway WebAdmin from the machine which is connected to the customer's corporate LAN.
   a. On the machine connected to the customer's corporate LAN, launch IE.
   b. In the IE Address bar, enter the IP Address for the AudioCodes gateway.

      The IP Address you enter is the one you configured in step 6i.
   c. When prompted, enter ***Admin*** *as* the account name and the password.

      The system opens the AudioCodes Gateway WebAdmin Home Page.
9. Update Administrative password for the gateway:
   a. In the left pane, expand **Security Settings.**
   b. Click **WEB User Accounts**.
   c. Click **Change Password**.
   d. Set the gateway Admin account name if required.
   e. Set the Admin password to the value that is provided in the DCT data file.
   f. Click **Submit.**

Continue configuring the AudioCodes gateway

Complete the following steps to configure the AudioCodes gateway locally or from a location remote to the Audiocodes gateway:

Note:

Ensure that you have the required AudioCodes gateway, Avaya Modular Messaging and PBX configuration notes available.

1. Connect to the customer site using the standard remote access method, if required.
2. Complete the following steps from the machine referred in Installation prerequisites on page 334, to connect to the AudioCodes gateway:
   a. Launch Internet Explorer (IE).
   b. In the IE Address bar, enter the IP address for the AudioCodes gateway
   c. When prompted, enter the account name and the password set by the field technician as outlined in Installing and configuring the AudioCodes gateway at switch location on page 335.

   The system opens the AudioCodes Web Admin Home Page.
3. On the AudioCodes Gateway Home page, confirm that the gateway firmware version matches with that provided in section 1.2 of the AudioCodes gateway configuration notes.
4. If the Firmware loaded on the gateway does not match the required version, then complete the following steps:
   a. Click **Device Actions > Software Upgrade Wizard**.
   b. Click **Browse** and locate the Firmware ***.CMP*** file.
   c. Click **Next**.
   d. Click **Burn** to save the changes to flash memory**.**
   e. Click **Device Actions > Reset**.
5. Make the required changes in the ***template.INI*** file using the steps described in AudioCodes configuration notes.
6. Upload the ***template.INI*** file to the gateway:
   a. Click **Device Actions > Load INI file.**
   b. Click **Browse** and locate the ***template.INI*** file.
   c. Click **Load INI file.** The system displays a warning message, when the system prompts you, click **OK**.
7. If the customer is non-US and switch integration type is *Analog*, you may upload the ***.CPT*** file that is specific to a region to the gateway:
   a. On the left pane, click the **Management** tab.

b. Expand **Software Update.**

c. Click **Load Auxiliary Files**. The system opens **Load Auxiliary Files** page.

d. In the **Call Progress Tones files** field, click **Browse** and select the appropriate ***.CPT*** file.

e. Click **Load File**.

f. Click **OK**.

Call Progress Tones (CPT) file is a region-specific and telephone exchange-dependent file. The file contains the call progress tone (CPT) levels and frequencies that the device uses. The default CPT file is **U.S.A**.

8. In the AudioCodes Web Admin Home Page, verify that the AudioCodes gateway configuration matches with the details provided in section 4 of AudioCodes gateway configuration notes.
9. Configure the Avaya MASs in Modular Messaging system.

   Use section 5 in AudioCodes gateway configuration notes as a guide to configure MASs. If you add a new MAS to your VMD, then you may need to update the Audiocodes gateway configuration for the added MAS.
10. Perform the acceptance tests on MASs using the AudioCodes gateway you have just configured as described in Performing acceptance tests on page 108.

Appendix K: Administrator reference

This appendix details the permissions and data schema modifications that are required to support Modular Messaging software in a Microsoft Exchange environment.

Exchange 2003 and 2007 group permissions

Avaya Modular Messaging customer account permissions are covered in Assigning permissions to the Modular Messaging Service Permissions Group on page 19. This section details why the Modular Messaging customer account must be added to the following groups:

- The BuiltIn/Account Operators group in each domain that contains accounts that will be enabled for Avaya Modular Messaging. This ensures that the Modular Messaging software has rights to perform the following operations:
  - Provide full access to the ms-Exch-Extension-Data attribute for user objects that are to be enabled for Modular Messaging. This access right is required to enable Modular Messaging subscriber accounts.
  - Create container objects. Avaya Modular Messaging creates a voice mail domain container. By default, the voice mail domain container is located at the root of the domain for which the Modular Messaging customer account is a member. This container stores the directory objects required for the Messaging Application Server and Mailbox Monitor Server software components.

    If the Modular Messaging customer account does not have sufficient privileges to create container objects at the base location of the domain that contains the customer account, a voice mail domain container must be created manually.
  - Create User objects, and mailbox-enable User objects, in the voice mail domain container. This right is required for the operation of the Messaging Application Server and Mailbox Monitor Server software.
- The BuiltIn/Administrators group in the domain that contains the Global Catalog servers, that will be used as peer-directory servers for Avaya Modular Messaging servers. This can be the domain that contains the customer account, or any sub-domain that contains the customer account. The right enables the Modular Messaging software to obtain search results from the peer-directory server, including recently deleted objects. This allows Avaya Modular Messaging to maintain consistency in its Front End Database (FEDB).
- The BuiltIn/Exchange Recipient Administrators group, new to Exchange 2007, gives Modular Messaging full control of Exchange properties on Active Directory user objects and is required to manage mailbox settings for Modular Messaging. Modular Messaging

requires membership in this group only in an environment with an Exchange 2007 peer mail server.

The following table details the property permissions required to support Modular Messaging and their purpose. It also indicates the lowest level in the Exchange Service property tree that this permission should be applied. Parentheses indicate permission names with an Exchange 2007 system.

Table 19: Required switch and messaging information

Permission	Description	Applies to this object and subcontainers	Modular Messaging requirement
Read	Read permission for items in container	Mailbox Store	Core requirement
Execute	Execute permission for items in container	Mailbox Store	Automatic with “Read”
Read Permissions	Ability to read the permissions for an object	Mailbox Store	Automatic with “Read”
Create Children (Create all child objects)	Ability to create an object below the current object	Connectors	Octel Analog Networking
List Contents	Displays the contents and children of an object	Exchange Organization	Exchange System Manager
Read Properties (Read all properties)	Allows for Properties to be read from the class object	Administrative Group	Core requirement
Write Properties (Write all properties)	Allows for existing class object Properties to be written to	Connectors	Octel Analog Networking
Administer Information Store	Allows creation of objects at root of folder	Mailbox Store	Voicemail Domain Mailbox
Create Named Properties in the Information Store	Allows new properties to be added to the class object	Mailbox Store	User Admin
View Information Store Status	Required for MAPI Logon	Mailbox Store	External Caller Mailbox
Receive As	Receive on behalf of privilege	Mailbox Store	Core requirement
Send As	Send on behalf of privilege	Mailbox Store	Core requirement

Send As permission

You must assign *Send As* permission to the Modular Messaging Service Permissions Group to allow Modular Messaging to deliver call answer messages to Modular Messaging enabled mailboxes. For procedures for assigning *Send As* permission see Assigning Send As permission on page 19.

Previously *Send As* permission was included when *Full Mailbox Access* was granted to a user. However, in current and future fixes and releases of Exchange 2003 and 2007 *Send As* permission must be added separately to the Modular Messaging Service Permissions Group. If it is not, any Exchange server with the most recent Microsoft patches applied will not be able to deliver call answer messages to Modular Messaging enabled mailboxes. Messages in the Spool folder cannot be delivered and will be continually retried. Additionally, users that log into the TUI will not be able to send messages to other users and will receive a *Message Cancelled* statement from the system.

Send As permission is added at the Root of the Forest to allow it to populate to every object in the Forest. However distribution is dependent on restrictions within the Forest. By default inheritance throughout the Forest is enabled for basic users. However, if inheritance has been disabled anywhere in the Forest, a user object will not receive *Send As* permission. In this case, inheritance must be enabled or *Send As* permission must be applied to that specific user.

Additionally, the accounts and groups listed below are protected by a background process that periodically checks and applies a security descriptor based on the AdminSDHolder object. This process removes Send As permission from these groups and members and reverts back to permissions configured for the AdminSDHolder object. Therefore the Send As permission must be added to the AdminSDHolder object using the Dsacls.exe utility if an account belonging to any of the protected groups is Modular Messaging enabled. For details on this procedure, see Assigning Send As permission on page 19.

Protected Groups and users:

- Administrators
- Account Operators
- Server Operators
- Print Operators
- Backup Operators
- Domain Admins
- Schema Admins
- Enterprise Admins
- Cert Publishers
- Administrator account
- Krbtgt account

Active Directory schema updates

Avaya Modular Messaging software requires the following changes to be made to the schema in an Exchange environment before any other Modular Messaging server components are installed, you must:

- Enable replication of the ms-Exch-Extension-Data attribute in the Global Catalog.
- Increase the maximum amount of data that can be stored in the ms-Exch-Extension-Data attribute to 64KB. This increased storage is used for G7.11 audio encoding format, which is typically used only on systems that support Teletypewriter (TTY).
- Add classes and attributes for Octel Analog Networking (if applicable).

The Modular Messaging software stores information about subscriber configurations in the ms-Exch-Extension-Data attribute. So that Modular Messaging MASs can obtain this information, this attribute must be replicated in the Global Catalog, a central repository for information about objects in the Windows 2000 or 2003 forest. When the replication is enabled, the system instructs the Global Catalog servers to include the ms-Exch-Extension-Data attribute in the list of objects replicated in the Windows 2000 or 2003 forest.

Replication of the ms-Exch-Extension-Data in the Global Catalog is also necessary for the correct operation of the Modular Messaging Client software (formerly called the Subscriber Options package). This is because the MAPI address book provider for Active Directory uses the Global Catalog as its data source. Replication is required for MAPI to support access to client applications, such as the MM Client software, through the PR_EMS_AB_EXTENSION_DATA property.

When the Modular Messaging Subscriber Administration extensions software component is installed, the software makes the following changes:

- Adds a Modular Messaging property page for each user in Active Directory Users and Computers. More specifically, the guide “A6688A44-CEDE-456E-AE57-3567D9909AE7” is added to the multi-valued attribute adminPropertyPages on the user-Display object, which has the dn: CN=user-Display,CN=409, CN=DisplaySpecifiers,CN=Configuration,DC=mycorp,DC=com.
- Copies files for the software components required to display the Modular Messaging property page to the Program Files\Avaya Modular Messaging directory.

Appendix L: Migrating Modular Messaging to Exchange 2007

This appendix describes how to install Modular Messaging in a network with Exchange 2007 mail servers or a combination of Exchange 2003 and 2007 mail servers. Select the procedure that describes your environment:

- Installing Modular Messaging with Exchange 2007 on page 346

  Provides instructions for installing a new Modular Messaging system in a network that contains either only Exchange 2007 mail servers, or a combination or Exchange 2003 and 2007 mail servers.

- Installing Modular Messaging with a separate Exchange 2007 VMD on page 348

  Provides instructions for installing a new Voice Mail Domain (VMD) in an existing Modular Messaging system where the new VMD will use an Exchange 2007 server as the peer mail server.

- Migrating Modular Messaging to Exchange 2007 on page 351

  Provides instructions for migrating an existing Modular Messaging system from Exchange 2003 mail servers to use Exchange 2007 servers as the peer mail servers. In most cases it is the eventual goal to remove the Exchange 2003 servers.

Installing Modular Messaging with Exchange 2007

Use the instructions in this section to install a new Modular Messaging system in a corporate infrastructure with Exchange 2007 mail servers or a combination of Exchange 2003 and 2007 mail servers.

Installation Requirements:

The installation requires the following:

- All Exchange servers must be functioning correctly
- You must have the following software available during the installation:
  - Microsoft Exchange Server MAPI Client
  - Microsoft Exchange 2007 Management Tools, 32-bit version
  - Microsoft Exchange Server 2007 Service Pack 1
  - During the installation you may be required to install additional components on your system if they have not been previously installed. These include Powershell 1.0, Microsoft Management Console 3.0, and .NET 2.0
  - Modular Messaging Release 5.1 Service Packs and patches

  For additional information about downloading Modular Messaging Service Packs and patches, see Appendix F: Updating Modular Messaging software on page 307.
- These instructions assume that the peer mail server is running Exchange 2007, and that Modular Messaging has never been installed in the Exchange organization.

What's new with Exchange 2007

During the installation follow all the procedures in the chapters of this book that describe how to install, configure and test a Modular Messaging system including those in Chapter 4: Configuring an Avaya MAS on page 39 or Chapter 5: Configuring a customer-provided MAS on page 55. However, note the following procedures that have changed when installing Modular Messaging with an Exchange 2007 peer mail server:

- The customer account group must be a member of the *Administrators, Account Operators,* and *Exchange Recipient Administrator* groups. Also, the permissions assigned to the customer account group differ with Exchange 2007. Follow the procedures in Chapter 2: Preparing to install Modular Messaging software on page 11 to set up the Modular Messaging accounts and assign permissions.

- Microsoft provides a PowerShell command that you can use to automate many of the steps needed to create and assign permissions to the customer account group. For more information, see Using Power Shell to create a Modular Messaging Service Permissions Group on page 18.
- Exchange 2007 does not support Octel Analog Networking (OAN). Follow the procedures in Updating the Active Directory on page 30. Do not select the checkbox to enable Octel Analog Networking.
- The NNTP and SMTP services are not required for Exchange 2007 Management Tools. See Installing and enabling Microsoft Windows services on page 60.
- When installing third-party software, you must install the 32-bit version of Exchange 2007 Management Tools and additional software and Microsoft Exchange Server 2007 Service Pack 1. For more information, see Installing third-party software on page 172.
- An MAS that is configured to communicate with an Exchange 2007 peer mail server also can be used to monitor Exchange 2003 non-peer mail servers. To do this you must create a monitor mailbox for each Exchange 2003 non-peer mail server you want to monitor. For more information, see Creating the non-peer Exchange 2003 monitor mailbox on page 357.
- When installing Avaya software updates, be sure to include the most recent Modular Messaging Release 5.1 service packs and patches.

Installing Modular Messaging with a separate Exchange 2007 VMD

Use the instructions in this section to install a new Modular Messaging system into a new Voice Mail Domain (VMD) that will be hosted on Exchange 2007 where there is already an existing VMD hosted on Exchange 2003 in the same Exchange organization.

Installation Requirements:

The installation requires the following:

- All Exchange servers must be functioning correctly
- Microsoft Exchange transport between Exchange 2003 servers and Exchange 2007 servers must be functioning correctly
- Modular Messaging Release 3.0, 3.1, or 4.0 is running on all MASs and supplementary servers in the existing VMD and is functioning correctly
- You must have assigned *send as* permission to the customer account group for the existing VMD. For instructions, see Assigning Send As permission on page 19.
- You must have the following software available during the installation:
  - Microsoft Exchange Server MAPI Client
  - Microsoft Exchange 2007 Management Tools, 32-bit version
  - Microsoft Exchange Server 2007 Service Pack 1
  - During the installation you may be required to install additional components on your system if they have not been previously installed. These include Powershell 1.0, Microsoft Management Console 3.0, and .NET 2.0
  - Modular Messaging Release 5.1 Service Packs and patches

  For additional information about downloading required Microsoft software, see Installing third-party software on page 172. For additional information about downloading Modular Messaging Service Packs and patches, see Appendix F: Updating Modular Messaging software on page 307.
- These instructions assume that when you begin the installation:
  - Modular Messaging MASs in the existing VMD are using Exchange 2003 servers as peer mail servers
  - All Modular Messaging user Exchange mailboxes in the existing VMD are located on Exchange 2003 servers

Note:

Subscribers in the existing Modular Messaging 3.0 VMD hosted by 2003 mail servers cannot be assigned mailboxes in the new VMD hosted on Exchange 2007 until all MASs in the existing VMD are upgraded to Modular Messaging Release 5.1.

What's new with Exchange 2007

During the installation follow the procedures in Chapter 4: Configuring an Avaya MAS on page 39 or Chapter 5: Configuring a customer-provided MAS on page 55 as well as procedures to configure and test the Modular Messaging system. However, note the following procedures that have changed when installing Modular Messaging with an Exchange 2007 peer mail server:

- You must add the customer account group to the *Exchange Recipient Administrator* group. See Creating the Modular Messaging customer account on page 13 for instructions for adding the customer account group to the *Exchange Recipient Administrator* group.
- The NNTP and SMTP services are not required for Exchange 2007 Management Tools. See Installing and enabling Microsoft Windows services on page 60.
- When installing third-party software, you must install the 32-bit version of Exchange 2007 Management Tools, Microsoft Exchange Server 2007 Service Pack 1, and additional software. For more information, see Installing third-party software on page 172.
- If you will be using an MAS with an Exchange 2007 peer mail server to monitor an Exchange 2003 non-peer mail server, you must create a non-peer mail server monitor mailbox. For more information, see Creating the non-peer Exchange 2003 monitor mailbox on page 357.
- When installing Avaya software updates, be sure to include the most recent Modular Messaging Release 5.1 service packs and patches.

Continuing the installation

After the new Modular Messaging VMD has been installed and tested, complete the following optional procedures. These procedures are not required as part of the installation procedure. They can be completed now or over time in the future.

1. Move Modular Messaging enabled mailboxes to the Exchange 2007 mail server. For more information, see Moving mailboxes to the Exchange 2007 server on page 353.
2. Move Modular Messaging enabled mailboxes to the Exchange 2007 VMD. For more information, see Moving mailboxes to a new Exchange 2007 VMD on page 350.

Moving mailboxes to a new Exchange 2007 VMD

To move Modular Messaging enabled Exchange mailboxes to the new Exchange 2007 VMD:

1. Click **Start** > **Programs** > **Administrative Tools** > **Active Directory Users and Computers**.
2. In the **Active Directory Users and Computers** window, expand the directory for the Modular Messaging Windows domain and select the VMD that contains the mailboxes that you want to move.
3. In the right pane, double-click the mailbox you want to move to the new VMD.
4. In the **Properties** window, click the **Modular Messaging** tab.
5. In the **Voice mail domain** field, select the new VMD from the drop-down list.
6. Click **OK** to save changes and close the **Properties** window. Close the **Active Directory Users and Computers** window.
7. Right-click **My Computer** and select **Manage**.
8. In the **Computer Management** window, in the left pane, expand **Event Viewer**.
9. Refresh the window display periodically until you see a **1027** event (gv_vserver) reporting that the FEDB update has occurred.
10. Test the functionality of the moved mailbox using the telephone user interface (TUI) and client software.
11. Repeat this procedure for each mailbox you are moving to the new VMD.

Note:

You can also use the VMEnable tool to bulk move Modular Messaging mailboxes to the new VMD.

Migrating Modular Messaging to Exchange 2007

Use the instructions in this section to migrate an existing Modular Messaging system from Exchange 2003 peer mail servers to use Exchange 2007 peer mail servers. In most cases it is the eventual goal to remove the Exchange 2003 servers.

Installation Requirements:

The installation requires the following:

- All Exchange servers must be functioning correctly. Exchange 2007 servers are installed and fully tested.
- Modular Messaging Release 5.1 is running on all MASs and supplementary servers and is functioning correctly
- You must have the following software available during the installation:
  - Microsoft Exchange Server MAPI Client
  - Microsoft Exchange 2007 Management Tools, 32-bit version
  - Microsoft Exchange Server 2007 Service Pack 1
  - During the installation you may be required to install additional components on your system if they have not been previously installed. These include Powershell 1.0, Microsoft Management Console 3.0, and .NET 2.0
  - Modular Messaging Release 5.1 Service Packs and patches

  For additional information about downloading Modular Messaging Service Packs and patches, see Appendix F: Updating Modular Messaging software on page 307.
- These instructions assume that when you begin the migration:
  - Modular Messaging MASs are using Exchange 2003 servers as peer mail servers
  - All Modular Messaging user Exchange mailboxes in the existing VMD are located on Exchange 2003 servers
  - There are no Exchange 5.5 servers in the environment

What's new with Exchange 2007

Complete the following procedures when migrating Modular Messaging to the Exchange 2007 mail server:

- You must add the customer account group to the *Exchange Recipient Administrator* group. See Creating the Modular Messaging customer account on page 13 for instructions for adding the customer account group to the *Exchange Recipient Administrator* group.
- If you have not previously assigned *send as* permissions to the customer account group, do so now. For instructions, see Assigning Send As permission on page 19.
- After adding the new group and assigned *send as* permissions, restart all MASs and supplementary servers to populate permission changes to all MASs.
- If you will be using an MAS with an Exchange 2007 peer mail server to monitor an Exchange 2003 non-peer mail server, you must create a non-peer mail server monitor mailbox. For more information, see Creating the non-peer Exchange 2003 monitor mailbox on page 357.

Continuing the installation

Migrate the Modular Messaging system to the Exchange 2007 mail servers by completing the following procedures:

1. Optionally move Modular Messaging enabled mailboxes to the Exchange 2007 mail server. This step is not required as part of the installation procedure. It can be completed now or over time in the future. For more information, see Moving mailboxes to the Exchange 2007 server on page 353.
2. Assign the MASs to the Exchange 2007 peer mail servers. For more information, see Assigning MASs to Exchange 2007 peer mail server on page 354.
3. When you are ready to remove the Exchange 2003 servers from the Exchange organization, verify that there are no Modular Messaging MASs that are using them as their peer mail server. For additional information, see the *Servers Tab* section of the *Modular Messaging online help*. Also remove non-peer monitor mailboxes. Follow the Microsoft recommended procedures to remove the Exchange 2003 servers from the Exchange organization. The Exchange 2003 servers do not need to be removed as part of the installation procedure. They can be removed at any time in the future.

Moving mailboxes to the Exchange 2007 server

To move Modular Messaging enabled Exchange mailboxes to the Exchange 2007 server:

1. Click **Start** > **All Programs**> **Microsoft Exchange Server 2007**> **Exchange Management Console**.
2. In the left panel, select **Recipient Configuration**.
3. In the center panel, select the mailboxes that you want to move.
4. In the right panel, click **Move Mailbox**.
5. In the **Move Mailbox** window, in the **Server** field, select the name of the Exchange 2007 server you want to host the mailbox.
6. Click **Next** and follow the prompts to complete the Move Mailbox wizard.
7. Test the functionality of the moved mailbox using the telephone user interface (TUI) and client software.
8. Repeat this procedure as needed to move mailboxes to the Exchange 2007 mail server. It is not necessary to move all mailboxes immediately. Migration to the server can be phased.

   Note:

   You can also use the Exchange Shell move_mailbox command to move mailboxes, or the Exchange Shell script move_mailbox command to bulk move mailboxes. For additional information, see your Microsoft Exchange documentation.

Assigning MASs to Exchange 2007 peer mail server

Complete the procedures in this section only when you are ready to remove your Exchange 2003 peer mail servers and replace them with Exchange 2007 peer mail servers. To move the MASs to the Exchange 2007 peer mail server, you must:

- Install Exchange 2007 Management Tools on the MAS. See Installing Exchange 2007 Management Tools on page 354.
- Change the MAS to access the Exchange 2007 peer mail server. See Changing to the Exchange 2007 peer mail server on page 356.

Move and test each MAS separately. It is not necessary to move all MASs to the Exchange 2007 peer mail servers at the same time.

Required Software

The following software downloads are required:

- Microsoft Exchange Server MAPI Client. The MAPI client can be downloaded from the following site:

  http://www.microsoft.com/downloads/details.aspx?FamilyID=e17e7f31-079a-43a9-bff2-0a110307611e&DisplayLang=en

- Microsoft Exchange 2007 Management Tools, 32-bit version. Downloaded the file from:

  http://www.microsoft.com/downloads/details.aspx?FamilyID=444C259E-605F-4A82-96D5-A2F448C9D4FF&displaylang=en

- Microsoft Exchange Server 2007 Service Pack 1
- During the installation you will be required to install additional components on your system if they have not been previously installed. These include Powershell 1.0, Microsoft Management Console 3.0, and .NET 2.0. The installation of the Management Tools will guide you through the installation of the required components and patches.

Installing Exchange 2007 Management Tools

Modular Messaging requires the 32-bit version of the Exchange 2007 Management Tools. To upgrade your MASs to the new management tools, complete the following steps:

1. Record which Modular Messaging services are running on the MAS.
2. Navigate to the **C:\Avaya_Support\tools\servicecontrol** directory.
3. Double-click the **StopMMServices.exe** file to stop all services on the MAS.

4. Uninstall the Exchange 2003 System Management Tools:
   a. Click **Start** > **Control Panel** > **Add or Remove Programs**.
   b. In the **Add or Remove Programs** window, select **Microsoft Exchange** and click **Change/Remove**.
   c. Complete the Microsoft Exchange Installation Wizard to remove the Exchange 2003 Management Tools.
5. Install Microsoft Exchange 2007 Management Tools:
   a. Double-click the tools executable file.
   b. Double-click the extracted Microsoft Exchange Installation wizard.
   c. Complete the Microsoft Exchange Installation Wizard selecting **Custom Exchange Server Installation**. Elect to install the **Management Tools**. For details about this procedure, see the Microsoft Exchange documentation.

   You may be prompted to download and install additional components and hotfixes. Follow the installation prompts. Be sure to download the Windows 2003 32-bit version of each component.
6. If prompted, reboot the system.
7. Install the MAPI client by double-clicking the MAPI executable file.
8. Verify that the Exchange 2007 Management Tools are working by completing the following procedure:
   a. Click **Start** > **All Programs**> **Microsoft Exchange Server 2007**> **Exchange Management Console**.
   b. Expand **Recipient Configuration** > **Mailboxes**.
   c. Verify that all Exchange mailboxes are listed.
9. Install Microsoft Exchange Server 2007 Service Pack 1.
10. Restart services by completing the following steps:
    a. Click **Start** > **Run** to open the **Run** window.
    b. In the **Open** field, type the following and press **Enter**:

       C:\Avaya_Support\Scripts\serverrecovery.vbs

Changing to the Exchange 2007 peer mail server

Use the Voice Mail System Configuration program to change the peer mail server for the MAS to the Exchange 2007 mail server:

1. On the MAS, launch the **Voice Mail System Configuration** program.
2. Expand **Message Application Servers** and the name of the MAS you are moving.
3. Under the MAS name, double-click **Messaging**.
4. On the **Messaging** window **General** tab in the **Mail Server Name** field, enter the name of the Exchange 2007 peer mail server.
5. Click **OK** to save the change and close the **Messaging** window. Close the VMSC window.
6. Navigate to the **C:\Avaya_Support\Tools\ServiceControl** directory.
7. Double-click the **StopMMServices.exe** file to stop all services on the MAS.
8. Using the Move Mailbox wizard on the Exchange Management Console, move the VMD mailbox from the old Exchange 2003 server to the new Exchange 2007 peer mail server. Complete this step only once for the Voice Mail Domain (VMD). For more information about moving mailboxes, see Moving mailboxes to the Exchange 2007 server on page 353.
9. Using the Move Mailbox wizard on the Exchange Management Console, move the External Caller mailbox from the old Exchange 2003 server to the new Exchange 2007 peer mail server. For more information about moving mailboxes, see Moving mailboxes to the Exchange 2007 server on page 353.
10. Restart all services by running the **serverrecovery.vbs** script. (If you have installed the patch, it will automatically restart services.)
11. Verify that the correct services are running on the MAS.
12. Repeat the steps in Installing Exchange 2007 Management Tools on page 354 and Changing to the Exchange 2007 peer mail server on page 356 for each MAS you are moving to the Exchange 2007 peer mail server. It is not necessary to move all the MASs at the same time.
13. After moving all required MASs to the Exchange 2007 peer mail server, perform a complete DCT analysis of the supplementary server and all MASs. All MASs, the supplementary server if one is present, and the Exchange message store must be running. For more information, see:
    - Using the DCT to collect information from an MAS on page 125 for an Avaya MAS
    - Using the DCT to collect information from an MAS on page 146 for a customer-provided MAS

Creating the non-peer Exchange 2003 monitor mailbox

If you will be using an MAS with an Exchange 2007 peer mail server to monitor a new Exchange 2003 non-peer server, complete the following steps to create the non-peer Exchange monitor mailbox:

1. Copy the file **C:\Avaya_Support\Exchange2007Migration\Add-Monitor-Mbx.exe** from the MAS to a machine that is running the Exchange 2003 System Management Tools.

   Note:

   This can be an Exchange 2003 server running the Exchange 2003 System Management Tools, or a machine with the Exchange 2003 System Management Tools that is used to administer the Exchange servers.

2. Click **Start > Run**, enter **cmd** and click **OK**.
3. In the command window, enter the following:

   Add-Monitor-Mbx <*Exchange server*> <*peer directory server*> <*Octel container*>

   where:

   <*Exchange server*> is the name of the non-peer Exchange 2003 server you want to monitor.

   <*peer directory server*> is the peer directory server used by the MASs

   <*Octel container*> is an optional entry that is not required if you are using the default Octel container location. Enter the location of the Octel container if you are not using the default location. For example: **cn=octel,cn=avaya,DC=ncis,DC=local**

   The non-peer Exchange server monitor mailbox is created. MASs will start monitoring the non-peer Exchange server when mailboxes located on the server are Modular Messaging enabled.

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